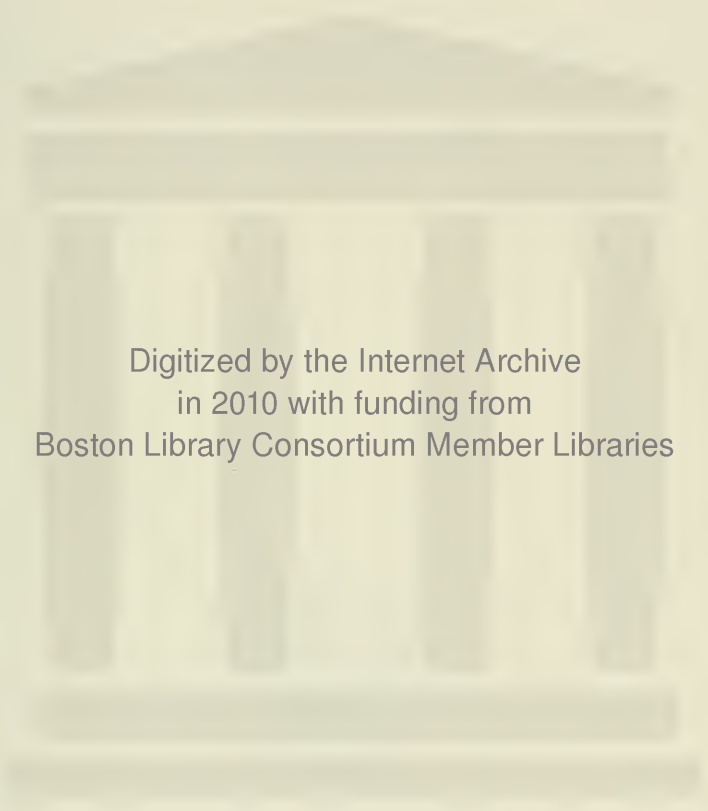


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SIXTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES.

NOVEMBER 30, 1912.



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TRUSTEES.

DANIEL L. PRENDERGAST, *Chairman.*

ARTHUR DRINKWATER.

ALBERT C. GETCHELL, M.D.

GEORGE A. DUNN.

SYLVIA B. KNOWLTON.

SIMON SWIG.

JOHN B. HAWES, 2d, M.D., *Secretary.*

3 JOY STREET, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report:—

In June, 1912, the term of office of Dr. William D. McFee of Haverhill expired. Governor Foss appointed Mr. Simon Swig of Taunton to fill the vacancy thus created. The term of office of Dr. Arthur T. Cabot, chairman of the Board, also expired. Governor Foss reappointed him a member of the Board.

It is with the deepest regret that the Board announces the death of its chairman, Dr. Arthur T. Cabot. This event took place on the evening of Monday, Nov. 4, 1912. Dr. Cabot had been chairman of the Board from the beginning, and had shown himself an ardent and indefatigable worker for the State. The Board recorded the following resolutions on his death:—

The Board of Trustees of Massachusetts Hospitals for Consumptives hereby records its great sorrow at the death of its chairman, Dr. Arthur T. Cabot.

Dr. Cabot has been chairman of this Board since its first meeting in September, 1907. He has been unsparing in devoting his time and energy to the work of the Board. The problem placed before him was a new and a difficult one. He has handled it wisely and well, with un-failing patience and energy. Through his efforts the State of Massachusetts has been placed foremost in the country in its handling of the tuberculosis problem. He has directed the policy of the Board along lines broad-minded, wise, sane and progressive. He has been influential in developing a system of proper medical inspection and care in factories and workshops. He has helped in the introduction of school and district nurses in cities and towns throughout the State. He has been an important factor in the development of outdoor schools for children.

In his death the State of Massachusetts suffers an irreparable loss and this Board a wise and efficient leader.

The four institutions under the control of this Board — the North Reading, Lakeville, Westfield and Rutland State sanatoria — have passed an active and successful year. At the three new sanatoria — those at North Reading, Lakeville and Westfield — the original capacity has been so increased by means of tents, etc., as to bring up the daily average of patients to about 175 instead of an average of 160 last year, and an original capacity of 150. The daily average of patients at the Rutland State Sanatorium has remained the same, — 345.

The waiting list for these institutions, particularly for men, is a long one. There are now upon this list over 200 men and women. Of these the greater number are in the advanced stages of the disease. In the winter months it is still necessary for a man to wait at least two months after filing his application, and a woman three to four weeks, before his or her name is reached upon the list. This condition still exists in spite of the increase in the total number of beds for consumptives provided by local municipal hospitals which have been built according to the terms of the so-called tuberculosis hospital act, chapter 597, Acts of 1911.

There are at present not over 2,800 beds for consumptives in all stages of the disease in this State. This number includes public and private institutions and those beds for consumptives in our insane and criminal hospitals. Conservative estimates show that there are nearly 10,000 consumptives in Massachusetts at the present time in need of hospital or sanatorium treatment. During the past year the average length of stay of patients at the State sanatoria was five months. Taking this as an average length of stay, the 2,800 beds at our disposal would accommodate approximately 5,600 patients in a year. This leaves a large number in need of hospital treatment who must be cared for in their homes or not at all.

The Board is of the opinion, as a result of its experience and careful study of the situation during the past five years, that there will always be demand for a larger number of beds than are at present provided in the State sanatoria, despite any increased accommodation offered by municipal hospitals. In accordance with this opinion the Board would respectfully request appropriation sufficient to increase the kitchen and dining-room

plants and bed facilities at the three new State sanatoria — North Reading, Lakeville and Westfield — according to plans, details of which will be found later in this report.

The three acts passed by the Legislature of 1911, known as the tuberculosis hospital act (chapter 613, Acts of 1911), the tuberculosis dispensary act (chapter 576, Acts of 1911) and the subsidy act (chapter 597, Acts of 1911), are proving of more and more value in the anti-tuberculosis campaign in this State. In accordance with the first of these acts, which requires that a hospital for contagious diseases, including tuberculosis, be provided in every city and in such towns requested so to do by the State Board of Health, the following cities and towns are provided with such hospitals: Boston, Fall River, Cambridge, New Bedford, Lynn, Springfield, Lawrence, Somerville, Holyoke, Salem, Quincy, Pittsfield, Waltham, Brookline and Westfield. The following cities and towns have either prepared plans or are actually building hospitals: Worcester, Taunton, Malden, Haverhill, Fitchburg, Everett, Northampton, Newburyport, Clinton and Adams.

Of these hospitals the following have been approved by this Board, according to the terms of the subsidy act: Boston, Cambridge, New Bedford, Lynn, Springfield, Lawrence, Somerville, Holyoke, Waltham and Westfield, so that for such indigent patients from these cities and towns, in whose sputum the germs of tuberculosis are found, the State subsidy of \$5 per week per patient is allowed.

The number of dispensaries actually opened in accordance with the tuberculosis dispensary act is at present small. The following is the list of cities and towns of over 10,000 inhabitants which have tuberculosis dispensaries: Boston, Chelsea, Worcester, Fall River, Lowell, Cambridge, New Bedford, Springfield, Brockton, Haverhill, Salem, Fitchburg, Pittsfield, Brookline, Attleborough, Newburyport, Gardner and Clinton. Of these cities and towns only 6 have dispensaries which were actually established as a result of this law and which are managed by the local boards of health.

It is hoped that cities and towns thus provided with tuberculosis hospitals and dispensaries will care for those advanced and dying consumptives who should be near their relatives and

friends, and will send the incipient and earlier cases to the State sanatoria, where the change of surroundings and climate and the outdoor sanatorium treatment will help to effect an arrest or cure of their disease. The Board believes that the establishment of dispensaries in each large city or town will bring about a closer co-operation between State and local authorities than at present exists. Despite the fact that local boards of health are notified upon the receipt of an indigent patient's application at the Boston office, and are further notified upon the admission and discharge of all patients to and from the sanatoria, it has been found on careful investigation by an agent of this Board that in only a comparatively small percentage of cases has the patient's house or room been fumigated on departure of a patient to a sanatorium, while a still smaller number of patients have been visited on their return by the agent or other representative of the local board of health, and helped and advised to continue treatment if this is necessary, or else to secure proper employment and advice as to the future. It is only by means of co-operation between the State and local authorities, which will carry out in the fullest degree the measures mentioned above, that advance against tuberculosis in this State can be made.

REGULATION OF WORK.

As mentioned in our last two reports, work as a therapeutic measure is demanded of such patients whom the physicians feel to be suited for it. This work consists in cleaning and caring for the wards, waiting at the tables, sweeping, cutting grass, work in the garden and on the lawns, etc. The superintendents are finding that patients are coming to realize more and more that such work is purely for their own benefit. At each of the four State sanatoria much work has been thus done by patients.

EX-PATIENTS ON THE PAY ROLL.

The Board has continued its policy of offering employment to all patients who on discharge are found to be suited for work which the sanatorium can offer. At the four sanatoria there are now over 134 patients on our pay roll as nurses, attendants, gardeners, etc. The Board feels it to be one of the most valua-

ble functions of any sanatorium in thus providing employment for its ex-patients and keeping them under observation by this means until a cure is firmly established.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past and has steadily increased. Bulletins have been sent out every two weeks to nearly 200 newspapers in the State. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and anti-tuberculosis workers, not only in Massachusetts but all over the country. The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the work. Literature in the way of reports, reprints, instructive pamphlets, pay envelope cards, etc., are kept on hand for distribution. Members of the Board, the four superintendents and the secretary have given lectures to large numbers of people on the general subject of tuberculosis, and the four superintendents have given many informal talks on this subject to their patients. "The Journal of the Massachusetts State Sanatoria," a monthly paper published at the Rutland State Sanatorium, in addition to giving items of news from the four sanatoria, contains numerous articles of interest and value not only to patients but to their friends and to the public at large. This paper is distributed to the patients, anti-tuberculosis associations, physicians and to many others who have asked that their names be put upon the mailing list.

CARE OF CHILDREN.

During the past year the number of children suffering with pulmonary tuberculosis applying for admission to the State sanatoria has steadily increased. The Board has found it wise to concentrate these children whenever possible at the Westfield State Sanatorium. There are now over 65 children fourteen years of age or under at this institution. Here they are given such schooling as can be arranged for under existing

conditions. As there are no separate dormitories for these children, and no separate room where they can assemble for purposes of teaching, recreation, etc., the problem has been a difficult one. The Board feels that there is great need for proper accommodation, not only in the way of separate sleeping and dining quarters for these children, but also for some place where they can be taught, and where they can play, apart from the adult consumptives. We would urge, therefore, suitable appropriation for buildings, detailed later in this report, at the Westfield State Sanatorium.

AFTER-CARE WORK IN REGARD TO DISCHARGED PATIENTS.

It is a well-known fact that the most important part of treatment in any given case of consumption comes after the patient has left the sanatorium. There are endless instances where patients have spent five or six months or longer in a sanatorium, and have left with the disease apparently arrested or cured only to relapse because they have not been able or willing to carry out the rules of living which they learned while at the institution. In order to prevent the occurrence of such relapses, on the discharge of any patient from any of the four State sanatoria the board of health and the State Health Inspector of that district are notified, and in addition to this the local tuberculosis society or committee is also notified, so that the patient may be looked up and helped in every way possible. This is bringing about a better state of affairs than formerly existed. We believe that there are still many instances, however, where patients have received absolutely no instruction or advice of any kind on their return to their homes after discharge from a sanatorium. Many will not seek such advice, and many are unable to afford the services of a private physician. Such patients must be looked up by the local authorities and helped, even against their will, to do what is right, not only for their own sakes but for the sake of the community at large.

Realizing the need of getting accurate data and statistics in regard to this situation, the Boston Association for the Relief and Control of Tuberculosis offered to pay the salary of a trained social worker, who should spend her time in finding out exactly what had happened to the patients recently discharged

from our sanatoria, and how far local boards of health and private voluntary agencies were co-operating with the efforts of the State in keeping patients well and in protecting the public. The Board accepted this offer, and on July 27, 1912, Miss Bernice W. Billings, a trained social worker and graduate of the Boston School for Social Workers, was appointed to fill this position. Although sufficient time has not yet elapsed on which to base very definite conclusions, our investigations so far have shown that while in a few cities patients discharged from the State sanatoria are looked up with the greatest of care, in the majority of instances such is not the case, as the following figures will show: —

Number of patients discharged from the North Reading, Lakeville, Westfield and Rutland State sanatoria during the months of May to November, 1912, inclusive,	427
Number of patients visited by Miss Billings, agent of the Board of Trustees of Hospitals for Consumptives,	360
Number of houses fumigated upon the departure of a patient for a State sanatorium or upon recognition of the disease, . . .	129
Number of patients visited or instructed by local boards of health,	85

The Board feels that this work will prove of the very greatest benefit in the campaign against consumption in this State, and that it should be continued. We would respectfully ask, therefore, for an appropriation of \$2,000, sufficient to cover Miss Billings' salary and her expenses in carrying on this work.

SUBSIDY DEPARTMENT.

Last year an appropriation of \$5,000 was granted in order to carry out the provisions of chapter 597, Acts of 1911, known as the subsidy act. Mr. Louis N. Phaneuf was appointed agent of the Board to carry on the work connected with this act, and particularly to look up those patients for whom the State subsidy was asked and to ascertain whether or not they were entitled to this subsidy.

The Board has estimated that an appropriation of \$2,500 will be sufficient to cover the salary and traveling expenses of this work. We would therefore respectfully ask for such an appropriation.

DISBURSEMENTS.

Appropriation,	\$6,170 00
Salary of secretary,	\$2,000 00
Salary of stenographer and clerk,	1,183 33
Rent of offices,	800 00
Travel and necessary expenses of trustees, office expenses, printing report, etc.,	2,110 19
	<hr/> \$6,093 52

The estimates for the maintenance of this office for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salary of secretary,	\$2,000 00
Salary of stenographer and clerk,	1,200 00
Extra clerical hire,	500 00
Travel and necessary expenses of trustees, including printing report, office expenses, etc.,	2,670 00
Carrying out the purposes of chapter 597, Acts of 1911,	2,500 00
After-care work, looking up discharged patients,	2,000 00
	<hr/> \$10,870 00

NORTH READING STATE SANATORIUM.

The North Reading State Sanatorium, which was opened Sept. 22, 1909, has now been in operation over three years. Extra beds have been provided so that the average number of patients during the past year has been over 175, a great increase over the original capacity of 150. This increase has been brought about by means of tents and extra beds put in the wards. There is need of a permanent structure to house these additional beds. The Board would ask, therefore, for an appropriation sufficient to build a new pavilion at this sanatorium, as well as to enlarge the dining and serving rooms sufficiently to comfortably accommodate the increased number of patients. The laboratory building, appropriation for which was made last year, has been completed and is proving a great addition to the institution.

Work is constantly being done to make the grounds more attractive and pleasant by laying out cement walks and the planting of shrubs, fruit trees, flowers, etc.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries and wages,	\$33,458 00	
Food,	29,487 00	
Clothing and clothing material,	180 00	
Furnishings,	2,200 00	
Heat, light and power,	5,565 00	
Repairs and improvements,	3,000 00	
Farm, stable and grounds,	3,000 00	
Miscellaneous,	5,995 00	
	<hr/>	\$82,865 00

For special appropriations: —

Alterations and additions to the dining room,	\$6,703 31	
Pavilion for 24 patients,	6,224 62	
Building of sidewalk, drainage of ground and repair of road,	1,500 00	
	<hr/>	\$14,427 93

LAKEVILLE STATE SANATORIUM.

The Lakeville State Sanatorium has had an average of over 175 patients during the past year. The grounds have been greatly improved and made attractive with numerous fruit trees, shrubs and flowers. The increased number of patients over the original capacity of 150 has caused considerable crowding in the wards and pavilions. The Board would ask, therefore, for appropriation sufficient to construct a new pavilion for 30 patients at an estimated cost of \$13,000, and for the construction of ten additional private rooms at an estimated cost of \$6,000.

Last year a suitable appropriation was requested for land and equipment for a dairy, in order that this sanatorium may be provided at all times with a milk supply adequate in quantity and quality. This appropriation was not granted last year. The same need exists at the present time. The Board would request, therefore, a special appropriation for the purpose of providing a dairy for the Lakeville State Sanatorium, as specified below.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries, wages and labor,	\$35,000 00
Food,	28,000 00
Clothing and clothing material, . . .	300 00
Furnishings,	3,500 00
Heat, light and power,	5,500 00
Farm, stable and grounds,	5,000 00
Repairs and improvements,	4,000 00
Miscellaneous,	6,000 00
	<hr/>
	\$87,300 00

For special appropriations:—

Pavilion for 30 patients, with quarters for 9 employees (and equipment),	\$13,000 00
Two additions to present wards for five addi- tional private rooms, each, in men's and women's wards, with baths,	6,000 00
Land and equipment for dairy:—	
Land, 75 acres (with 2-tene- ment house and 2 barns), . \$6,000 00	
Forty cows and dairy equip- ment,	4,000 00
Remodeling barn, water sup- ply, etc.,	2,000 00
	<hr/>
	12,000 00
Laboratory equipment,	1,000 00
	<hr/>
	\$32,000 00

WESTFIELD STATE SANATORIUM.

The Westfield State Sanatorium has had an average of over 175 patients during the past year. As mentioned earlier in the report, the Board has found it expedient to concentrate all the children, for whom application is made for admission to the State sanatoria, at this institution. There are now over 65 children under the age of fourteen years. The Board would ask, therefore, that sufficient appropriation be made to construct a building for the accommodation of the children at this institution.

The present power house is at the base of the service building. It was located there because the original appropriation for constructing the institution was too small to permit of a separate building. It has been a constant source of annoyance because of the vibration of machinery, and the dirt from the coal dust tracks and blows into the kitchen and dining rooms. We would

move the present laundry into the new building on account of the ever-present danger of fires in laundries. A fire in the building in which the laundry and power plant are now located would endanger the whole institution, as it is in the central building of the group. The present laundry could readily be made into a dining room for the patients in the children's ward, and would be needed for that purpose. Besides moving the present power plant additional equipment would be needed, namely, one new boiler, one new reciprocating engine and a water pump. This building would also provide twelve rooms for employees. The Board would recommend that the sum of \$17,000 be granted for the purpose of constructing such power house and laundry.

The land for the purchase of which appropriation was made last year, in order to protect the water supply of the institution, has been bought, and a safe and clean supply of water is now assured. The cow barn for which appropriation was also made has been built.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$32,000 00	
Food,	32,000 00	
Clothing and clothing material,	500 00	
Furnishings,	2,500 00	
Heat, light and power,	5,000 00	
Repairs and improvements,	3,500 00	
Farm, stable and grounds,	3,500 00	
Miscellaneous,	8,000 00	
	<hr/>	\$87,000 00
For special appropriations:—		
Children's ward and equipment,	\$20,000 00	
Power house and laundry building with equipment,	17,000 00	
	<hr/>	\$37,000 00

RUTLAND STATE SANATORIUM.

The Rutland State Sanatorium has been kept full during the past year, with an average of 345 patients. The method of making application for this institution by means of a detailed application blank, which can be filled out by any registered

physician in the State, has worked well in securing suitable cases for this institution. The Board feels justified, by the results obtained, in thus placing the early diagnosis of tuberculosis in the hands of the medical profession at large instead of in the hands of a small group of paid examiners, as was the custom before this Board took control of the Rutland State Sanatorium.

The so-called "non-citizenship clause" in the Rutland act, which practically prevented all non-citizens from entering this sanatorium, was so amended by the Legislature of 1912 as to allow patients who had had residence in this State for at least six months to be admitted to this sanatorium upon the approval of the Board of Trustees. This amendment has been a great help in many deserving cases, especially among women who were *bona fide* residents of Massachusetts and yet because of non-citizenship had in the past been deprived of the benefits of treatment at this institution.

The estimates for the following year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$66,000 00
Food,	71,000 00
Clothing and clothing material,	100 00
Heat, light and power,	14,000 00
Repairs and improvements,	4,000 00
Furnishings,	4,900 00
Farm, stable and grounds,	8,000 00
Church,	550 00
Miscellaneous,	14,450 00
	<hr/>
	\$183,000 00

Respectfully submitted,

DANIEL L. PRENDERGAST.
 ARTHUR DRINKWATER.
 GEORGE A. DUNN.
 ALBERT C. GETCHELL, M.D.
 SYLVIA B. KNOWLTON.
 SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MacCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
NEWELL B. BURNS, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
HARRY S. NEWHART, M.D.,	.	.	.	.	<i>Physician.</i>

SUSAN R. HAYNES,	.	.	.	.	.	<i>Treasurer.</i>
JENNIE H. SANFORD,	.	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	.	<i>Supervisor.</i>
EDWARD W. PERRY,	.	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, 3 Joy Street, Boston, Mass.

LADIES AND GENTLEMEN: — I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1912.

The records show that during the year 495 patients have been treated and 335 have been admitted. The lowest daily census was 154, and the highest 182. The daily average number of patients was 173.12, which is 14.89 more than that of the preceding year.

There have been admitted during the year 16 incipient, 70 moderately advanced, 243 advanced cases, 5 not tuberculous and 1 not determined. There has been a daily average of 70.90 bed cases, approximately 39 per cent. of the daily population, — a decrease of 6 per cent. over that of last year.

Of the 335 cases admitted, 272, or 81 per cent., were inside workers, and 253 were admitted from cities and towns having a population of 25,000 or more.

The average duration of residence in the sanatorium was one hundred and seventy-one days, as opposed to one hundred and sixty-seven days for the preceding year; the longest residence of any one person was ten hundred and twenty-one days, and the shortest, one day.

Of the patients discharged during the year, 180 have gained in weight, the total gain being 2,047 pounds and the average gain 11.37 pounds; 6 patients have remained stationary, 40 have lost, 18 were not considered (duration in the sanatorium being less than one week) and 60 have died. Sixty-four patients have been discharged "apparently arrested," 101 were improved, 36 were progressive, 60 have died, 52 were "not con-

sidered " (duration of stay being less than one month) and 4 were not tuberculous. The average age was 31.5 years. One hundred and forty-three were foreign born (42 per cent.) and 110 were American born but of foreign parentage.

The total cost for maintenance for the year ending Nov. 30, 1912, was \$82,077.86; deducting \$1,154.51, collected from miscellaneous sources, leaves a net amount expended for maintenance of \$80,923.35. The average per capita cost per week is \$8.94. There has been collected from private patients \$3,779.21, and from cities and towns, \$17,190.28. Further details will be found in succeeding pages of this report.

One hundred and seventy-eight cases have been supported from private funds, 258 cases by cities and towns, 159 cases entirely by the State, and 19 private cases have later become either town or State charges. There were remaining Nov. 30, 12 private cases, 80 city or town cases, 36 State cases and 50 unknown cases.

A school for the young children has been maintained during the past year, the teaching being done wholly by patients. There has been an average attendance of 10 pupils, the largest attendance at any one time being 14.

The educational feature of the treatment has been given due consideration during the year. All ambulant patients are given a talk on the disease and its treatment by the superintendent shortly after their admission. Weekly lectures are given by the medical staff during the winter months, special stress being laid upon the prophylactic and hygienic measures necessary for the protection of the public health.

IMPROVEMENTS.

During the year a storm porch was built over the west entrance to the dining room. A smoking pavilion 10 by 16 feet has been built between pavilions A and B on the east side for the use of the male patients. The old farmhouse, which is used for the housing of a greater portion of our male employees, has been renovated and painted inside and out. The employees' and nurses' rooms in the administration building have also been painted. New refrigerators have been built in the

kitchen and storeroom; alterations made in the kitchen; a large portable oven, sink and steam kettle installed in the bake shop; a hood and ventilating shaft and a three-compartment steamer installed in the kitchen; and a ventilating shaft and exhaust fan in the serving room.

About 10 acres of brush land have been cleared. The new sewerage system has been completed, and water has been extended to the henhouse. The new camp for ex-patient employees has been completed and is now occupied. A small building has been erected and equipped for laboratory purposes and is in use at the present time. The veranda on the east wing of the east ward has been extended around to the north side of the hospital ward, also that on the west wing of the west ward. A cement retaining wall has been installed by the engine house. A small hip roof addition has been built to the power house to accommodate the ice-freezing plant which is being installed. A large boiler, dipping tank and overhead track with pulleys has been installed at the pig-gery for slaughtering purposes. This boiler provides, as well, for a thorough sterilization of the swill. Considerable underground tile has been laid for the partial drainage of our grounds. A hedge has been planted on either side of the west drive, leading from the administration building to the main highway, and numerous rock maples and cottonwood trees have been set out on the east drive, leading to the highway and farmhouse. A large, screened summerhouse has been erected in the pine grove opposite the administration building for the use of the female nurses. A carriage shed is being built on the north side of the barn and is nearly completed. Under the laboratory a 30-light Gilbert & Barker gas machine has been installed.

FARM AND GARDENS.

There have been about 8 acres of land under cultivation the past year. Although we suffered from a very heavy frost in June, which killed a portion of our garden truck, the productiveness, on the whole, was very satisfactory. Three additional acres have been broken for future cultivation.

RECOMMENDATIONS.

A building for religious purposes and recreation has been a long-felt want. Our dining and serving rooms have been greatly overtaxed during the past year. We have not sufficient accommodations for housing our domestics and firemen. Plans and specifications have been prepared in accordance with the law for the alteration and addition to the dining room to meet this need at an estimated expense of \$6,703.31.

In view of the fact that it has taken from two to three months for male applicants to be admitted to this sanatorium, it seemed advisable to increase our capacity. This was accomplished by erecting more tents. Our lavatories have been somewhat overtaxed by the increase in population. It will be impossible for us to accommodate this increase through the winter months. Plans and specifications have been drawn for a pavilion accommodating 24 patients, at an estimated cost of \$6,224.62.

A sidewalk leading from the hospital buildings to the main highway is greatly needed. Our road, which has never been fully completed, should be repaired. It is most desirable to furnish means for the removal of surface water about our buildings. I would recommend that \$1,500 be asked for this purpose.

The sum of \$82,865 will be required for the maintenance of the sanatorium the coming year.

ACKNOWLEDGMENTS.

I wish to acknowledge our obligations to the Rev. Father Walsh and the Rev. Mr. Junkins, who have labored for the welfare of all.

I desire to express my thanks for the many gifts of books, magazines, papers, flowers, etc., that were given to the patients at this institution during the year. I wish especially to thank Mrs. Abbott of Andover, who has given the "Saturday Evening Post" to the men patients each week; the Winchester Branch of the Needlework Guild for the box of clothing; the Andover Mothers' Club for fruit and preserves; the North Reading Christian Endeavor Society for a collection of books;

and Mr. Louis Doucette of North Wilmington for a basket of beautiful sweet peas.

I wish to thank all officers and employees whose services and attentions have helped to lighten my responsibilities.

I wish to express to the trustees my deepest appreciation for their support and encouragement.

Respectfully submitted,

CARL C. MACCORISON,
Superintendent.

REPORT OF THE TREASURER.

To the Trustees of the North Reading State Sanatorium.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1912:—

CASH ACCOUNT.

Balance Dec. 1, 1911,			—
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates:—			
Private,	\$3,779	21	
Cities and towns,	17,190	28	
			\$20,969 49
Sales:—			
Food,	\$0	48	
Clothing and materials,	27	58	
Furnishings,	38	78	
Repairs and improvements,	38	18	
Miscellaneous,	363	16	
Farm, stable and grounds:—			
Pigs and hogs,	86	00	
Horses,	426	96	
Fruit,	31	60	
Vegetables,	25	24	
Use of teams,	11	75	
Sundries,	104	78	
			1,154 51
Miscellaneous receipts:—			
Interest on bank balances,			97 46
			\$22,221 46
<i>Receipts from Treasury of Commonwealth.</i>			
Maintenance appropriations:—			
Balance of 1911,	\$5,042	10	
Advance money (amount on hand November 30),	7,000	00	
Approved schedules of 1912,	\$72,386	79	
Less returned,	5	51	
			72,381 28
			84,423 38
Special appropriations,			2,256 63
Total,			\$108,901 47

Payments.

To treasury of Commonwealth, institution receipts,		\$22,221 46
Maintenance appropriations: —		
Balance November schedule, 1911,	\$5,042 10	
Eleven months' schedules, 1912,	72,381 28	
November advances,	6,061 27	
	<hr/>	83,484 65
Special appropriations: —		
Approved schedules,		2,256 63
Balance, November 30, 1912: —		
In bank,	\$872 78	
In office,	65 95	
	<hr/>	938 73
Total,		\$108,901 47

MAINTENANCE.

Appropriation,	\$82,110 00
Expenses (as analyzed below),	82,077 86
	<hr/>
Balance reverting to treasury of Commonwealth,	\$32 14

Analysis of Expenses.

Salaries, wages and labor: —		
General administration,	\$13,724 05	
Medical service,	4,451 99	
Ward service (male),	1,474 48	
Ward service (female),	5,568 06	
Repairs and improvements,	2,312 15	
Farm, stable and grounds,	4,421 38	
	<hr/>	\$31,952 11
Food: —		
Butter,	\$2,666 15	
Butterine,	398 99	
Beans,	10 27	
Bread and crackers,	82 41	
Cereals, rice, meal, etc.,	236 84	
Cheese,	2 13	
Eggs,	2,361 20	
Flour,	1,094 35	
Fish,	666 61	
Fruit (dried and fresh),	982 33	
Meats,	7,534 89	
Milk,	6,375 49	
Molasses and syrup,	15 15	
Sugar,	1,423 72	
Tea, coffee, broma and cocoa,	657 67	
Vegetables,	1,658 23	
Sundries,	845 35	
	<hr/>	27,011 78
Clothing and materials: —		
Boots, shoes and rubbers,	\$16 65	
Clothing,	89 89	
Dry goods for clothing and small wares,	25 72	
Hats and caps,	69	
	<hr/>	132 95
Amount carried forward,		\$59,096 84

<i>Amount brought forward,</i>		\$59,096 84	
Furnishings: —			
Beds, bedding, table linen, etc.,	\$1,317 47		
Brushes, brooms,	88 73		
Carpets, rugs, etc.,	65 22		
Crockery, glassware, cutlery, etc.,	645 98		
Furniture and upholstery,	334 01		
Kitchen furnishings,	340 90		
Wooden ware, buckets, pails, etc.,	191 70		
Sundries,	219 89		
			3,203 90
Heat, light and power: —			
Coal,	\$3,514 11		
Freight on coal,	1,003 71		
Oil,	75 13		
Sundries,	25 87		
			4,618 82
Repairs and improvements: —			
Brick,	\$2 40		
Cement, lime and plaster,	98 70		
Doors, sashes, etc.,	96 10		
Electrical work and supplies,	269 32		
Hardware,	599 65		
Lumber,	1,090 99		
Paints, oil, glass, etc.,	453 05		
Plumbing, steam fitting and supplies,	1,359 60		
Sundries,	1,099 28		
			5,069 09
Farm, stable and grounds: —			
Blacksmith and supplies,	\$102 58		
Carriages, wagons, etc., and repairs,	98 09		
Fertilizers, vines, seeds, etc.,	492 80		
Hay, grain, etc.,	1,337 99		
Harnesses and repairs,	213 40		
Horses,	1,225 00		
Other live stock,	126 55		
Tools, farm machines, etc.,	172 40		
Sundries,	562 46		
			4,331 27
Miscellaneous: —			
Books, periodicals, etc.,	\$75 90		
Chapel services,	720 00		
Freight, expressage and transportation,	567 86		
Funeral expenses,	30 00		
Entertainments,	64 11		
Medicines and hospital supplies,	1,603 99		
Postage,	164 80		
Printing and printing supplies,	363 90		
Soap and laundry supplies,	426 44		
Stationery and office supplies,	139 15		
School books and school supplies,	29 21		
Travel and expenses (officials),	319 64		
Telephone and telegraph,	275 40		
<i>Amounts carried forward,</i>	\$4,780 40	\$76,319 92	

<i>Amounts brought forward,</i>		\$4,780 40	\$76,319 92
Miscellaneous — <i>Con.</i>			
Tobacco,		4 20	
Cuspidor supplies,		752 65	
Sundries,		220 69	
			5,757 94
Total expenses for maintenance,			\$82,077 86

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1911,		\$3,490 33
Expended during the year (see statement annexed),		2,256 63
Balance Nov. 30, 1912,		\$1,233 70

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,		\$938 73
November cash vouchers (paid from advance money),		6,061 27
Due from treasury of Commonwealth account November, 1912, schedule,		2,696 58
		\$9,696 58

Liabilities.

Schedule of November bills,		\$9,696 58
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PER CAPITA.

During the year the average number of inmates has been 173.12.

Total cost for maintenance, \$82,077.86.

Equal to a weekly per capita cost of \$9.067.

Receipts from sales, \$1,154.51.

Equal to a weekly per capita of \$0.127.

All other institution receipts, \$21,066.95.

Equal to a weekly per capita of \$2.455.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Land, spur tracks, etc.,	Acts 1910, chap. 114	\$1,000 00	—	\$52 40	\$947 60
Sewerage purification,	Acts 1911, chap. 99	3,500 00	\$2,256 63	3,213 90	286 10
		\$4,500 00	\$2,256 63	\$3,266 30	\$1,233 70

Respectfully submitted,

SUSAN R. HAYNES,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

Real estate: —

Lands, number of acres, 123,	\$4,965 42
Buildings,	71,776 92
Power plant, laundry, machinery, heating, water and sewerage systems and improve- ments,	25,802 31
Total,	<hr/> \$102,544 65

Personal estate: —

Food,	\$2,540 16
Clothing,	351 80
Furnishings,	19,017 75
Heat, light and power,	2,828 34
Repairs and improvements,	1,929 96
Farm, stable and grounds,	5,685 96
Miscellaneous,	4,613 33
Total,	<hr/> 36,967 30
Grand total,	<hr/> \$139,511 95

PRODUCTS OF THE FARM AND GARDENS.

Apples, 3.7 barrels, at \$1.75,	\$6 50
Beans (string and shell), 54 bushels, at \$1.19,	64 05
Dry beans, 3 $\frac{1}{2}$ bushels, at \$2.80,	10 50
Beets, 36 bushels, at \$0.69,	25 00
Cabbage, 164 barrels, at \$0.75,	123 73
Carrots, 21 bushels, at \$0.67,	14 10
Chickens, 849 pounds, at \$0.26,	218 63
Corn, 734 dozen, at \$0.10,	73 40
Cucumbers, 4,461 sliced, at \$0.013,	59 54
Cucumbers, 20,996 pickles at \$0.37 per 100,	77 45
Eggs, 293 $\frac{1}{2}$ dozens, at \$0.42,	124 36
Hay, 1 $\frac{1}{2}$ tons, at \$24,	36 00
Meadow hay, 3 tons, at \$12,	36 00
Lettuce, 7 bushels, at \$0.49,	3 45
Melons, 62, at \$0.10,	6 20
Onions, 25 $\frac{1}{2}$ bushels, at \$0.76,	19 17
Peas, 14 $\frac{1}{2}$ bushels, at \$2.16,	30 80
Potatoes, 922 bushels, at \$0.64,	591 59
Pork, 3,179 pounds, at \$0.11,	349 69
Straw, 3 tons, at \$22,	66 00
Strawberries, 2,400 boxes, at \$0.15,	360 00
Summer squashes, 207, at \$0.01,	2 07
Squash, Hubbard, 2,632 pounds, at \$0.01 $\frac{1}{2}$,	39 48
Tomatoes, green, 12 bushels, at \$0.60,	7 20
Tomatoes, ripe, 43 $\frac{1}{2}$ bushels, at \$1,	43 50
Turnips, 75 bushels, at \$0.45,	33 41
Wood, 8 cords, at \$4,	32 00
<hr/>	
Total,	\$2,453 82

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	84	76	160
Number received during the year,	207	128	335
Number discharged or died during the year,	198	119	317
Number at end of the fiscal year,	93	85	178
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	90.81	82.31	173.12
Average number of officers and employees during the year,	37	30	67

Expenditures.

Current expenses:—

1. Salaries and wages,	\$31,952 11	
2. Clothing,	132 95	
3. Subsistence,	31,630 60	
4. Ordinary repairs,	5,069 09	
5. Office, domestic and outdoor expenses,	13,293 11	
Total,	\$82,077 86	

Extraordinary expenses:—

1. Sewerage purification,	2,256 63	
Grand total,	\$84,334 49	

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1911,	84	76	160
Number of patients admitted Dec. 1, 1911, to Nov. 30, 1912, inclusive.	207	128	335
Number discharged Dec. 1, 1911, to Nov. 30, 1912, inclusive,	198	119	317
Number of deaths (included in preceding item),	40	20	60
Number remaining in sanatorium Nov. 30, 1912,	93	85	178
Daily average number of patients,	90.81	82.31	173.12

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	101	67	168
Single,	102	54	156
Widowed,	2	7	9
Divorced,	1	—	1
Unknown,	1	—	1
Totals,	207	128	335

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
1 to 14 years,	3	2	5
14 to 20 years,	20	12	32
20 to 30 years,	67	56	123
30 to 40 years,	52	39	91
40 to 50 years,	45	16	61
Over 50 years,	20	3	23
Totals,	207	128	335

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	107	29	29	59	16	20	166	45	49
Other New England States,	10	18	17	6	15	6	16	33	23
Other States,	3	2	3	7	2	1	10	4	4
Total native,	120	49	49	72	33	27	192	82	76
Other countries: —									
Austria,	2	2	2	1	1	1	3	3	3
Belgium,	1	1	1	—	—	—	1	1	1
Canada,	13	21	26	15	18	21	28	39	47
Denmark,	—	—	—	1	2	1	1	2	1
England,	6	10	11	6	9	7	12	19	18
Finland,	5	5	5	—	—	—	5	5	5
France,	—	2	2	—	—	—	—	2	2
Germany,	—	5	3	2	7	6	2	12	9
Greece,	2	2	2	—	—	—	2	2	2
Ireland,	21	58	61	15	31	37	36	89	98
Italy,	5	6	6	3	5	4	8	11	10
Newfoundland,	1	4	2	3	3	3	4	7	5
Norway,	—	—	—	—	—	1	—	—	1
Portugal,	—	—	—	1	2	1	1	2	1
Poland,	—	—	—	1	1	1	1	1	1
Russia,	27	29	29	7	8	7	34	37	36
Sweden,	1	1	1	1	2	2	2	3	3
Syria,	—	1	1	—	—	—	—	1	1
Scotland,	1	3	3	—	4	2	1	7	5
Turkey,	2	2	2	—	—	—	2	2	2
West Indies,	—	1	—	—	—	—	—	1	—
Total foreign,	87	153	157	56	93	94	143	246	251
Unknown,	—	5	1	—	2	7	—	7	8
Totals,	207	207	207	128	128	128	335	335	335

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Amesbury,	2	Medford,	7
Andover,	1	Milford,	1
Arlington,	4	Newton,	2
Belmont,	1	Newburyport,	5
Beverly,	2	North Andover,	1
Boston,	90	Peabody,	2
Chelsea,	26	Rockport,	2
Cambridge,	6	Reading,	1
Chelmsford,	1	Revere,	7
Chicopee,	1	Royalston,	1
Clinton,	1	Rowley,	1
Danvers,	1	Rutland,	2
Everett,	7	Salem,	3
Fall River,	1	Saugus,	2
Fitchburg,	6	Somerville,	11
Gardner,	1	Springfield,	1
Georgetown,	1	Sterling,	1
Gill,	1	Stoneham,	1
Gloucester,	4	Swampscott,	1
Groveland,	3	Topsfield,	1
Haverhill,	17	Waltham,	4
Hamilton,	1	Wakefield,	1
Lawrence,	4	Watertown,	1
Leominster,	1	Wellesley,	1
Lowell,	20	Wenham,	2
Lynn,	26	Winchester,	1
Lynnfield,	1	Winthrop,	1
Melrose,	1	Woburn,	5
Malden,	25	Worcester,	6
Marblehead,	2	Total,	335
Maynard,	2		

TABLE 6. — *Occupation of Cases admitted.*

	Males.	Females.		Males.	Females.
Artist,	1	-	Lead worker,	1	-
Barber,	6	-	Lithographer,	2	-
Baker,	3	1	Machinist,	7	-
Bartender,	2	-	Maid,	-	1
Booker,	1	-	Meat cutter,	2	-
Bookkeeper,	1	2	Millwright,	1	-
Brakeman,	3	-	Mill operative,	7	3
Butler,	1	-	Morocco worker,	2	-
Carpenter,	5	-	Motorman,	1	-
Cigar maker,	2	-	Painter,	5	-
Clerk,	23	6	Paper cutter,	1	-
Coppersmith,	1	-	Printer,	4	1
Crossing tender,	1	-	Plumber,	2	-
Conductor,	3	-	Post-office clerk,	1	1
Domestic,	1	13	Plasterer,	2	-
Draftsmen,	2	-	Presser,	-	1
Druggist,	1	-	Photographer,	1	-
Electrician,	3	-	Scholar,	8	8
Elevator man,	2	-	Shoemaker,	34	1
Engineer,	1	-	Seamstress,	-	4
Factory,	3	8	Stonecutter,	3	-
Foreman,	1	-	Stenographer,	-	4
Farmer,	2	-	Shipper,	1	-
Fisherman,	1	-	Teamster,	12	-
Gardener,	2	-	Telegrapher,	2	-
Glass packer,	1	-	Teacher,	-	1
Governess,	-	1	Telephone operator,	-	1
Hairdresser,	-	1	Tailor,	8	-
Heel cutter,	1	-	Timekeeper,	1	-
Housewife,	-	55	Tool grinder,	1	-
Inspector,	2	-	Watchman,	2	-
Junk dealer,	1	-	Writer,	1	-
Jeweler,	1	-	Waitress,	-	3
Janitor,	1	-	Waiter,	2	-
Laborer,	7	-	Weaver,	1	5
Letter carrier,	1	-	Wire worker,	2	-
Laundryman,	1	-	Watch maker,	2	1
Laundress,	-	6	Totals,	207	128

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	10	6	16
Moderately advanced,	33	37	70
Advanced,	162	81	243
Nontuberculous,	1	4	5
Not determined,	1	—	1
Totals,	207	128	335

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Disease arrested,	42	22	64
Improved,	64	37	101
Progressive,	20	16	36
Died,	40	20	60
Nontuberculous,	2	2	4
Not considered (duration of stay less than one month),	30	22	52
Totals,	198	119	317

TABLE 9. — *Deaths.*

DURATION OF DISEASE.	Males.	Females.	Totals.	LENGTH OF RESIDENCE IN SANATORIUM.		
				Males.	Females.	Totals.
Under 1 month,	—	—	—	10	4	14
1 to 2 months,	—	—	—	3	2	5
2 to 3 months,	2	—	2	6	2	8
3 to 4 months,	—	—	—	3	2	5
4 to 5 months,	2	—	2	4	1	5
6 to 7 months,	3	—	3	2	2	4
7 to 8 months,	—	—	—	2	—	2
8 to 9 months,	—	—	—	3	—	3
9 to 10 months,	2	—	2	—	2	2
10 to 12 months,	1	—	1	—	—	—
12 to 18 months,	3	3	6	2	2	4
18 to 24 months,	5	1	6	5	1	6
Over 2 years,	22	16	38	—	2	2
Totals,	40	20	60	40	20	60

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis,	40	19	59
Nontuberculous,	—	1	1
Totals,	—	—	60

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.SUMNER COOLIDGE, M.D., . . . *Superintendent.*EDSON W. GLIDDEN, M.D., . . . *Assistant Superintendent and Physician.*

ABBIE A. BLISS, *Supervisor of Nurses.*ELLA M. KELLEY, *Matron.*LESTON P. GIDDINGS, *Steward.*BENTLEY H. WILSON, *Chief Engineer.*JONAS HIRST, *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:—I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1912.

The total number of patients treated during the year was 505, of whom 163 remained in the sanatorium Dec. 1, 1911. The 342 patients admitted during the year were classified as follows: incipient, 19, approximately 6 per cent.; moderately advanced, 88, or 26 per cent.; advanced, 229, or 67 per cent.; probably nontuberculous, 1. These figures indicate that we are admitting a larger percentage of advanced cases than formerly.

RESIDENCE.

The admissions from Boston increased from 37.6 per cent. of the total admissions for the previous year to 49.4 per cent., while those from the other cities of this district have fallen off slightly. Brockton sent us 6.7 per cent., Fall River, 5 per cent., New Bedford, 2.9 per cent. and about 36 per cent. came from 59 other towns and cities.

CLASSIFICATION.

Of the total number treated the percentage of private cases has diminished from 16 per cent. for the previous year to 12 per cent., causing a corresponding increase in cases paid for by municipalities to 53 per cent., while 23 per cent. have been supported at the sanatorium entirely by the State. One per cent. of the total number were transferred from private to State cases, 6 per cent. from private to town, and settlements of 5 per cent. are not yet determined.

LENGTH OF STAY.

The gratifying increase from the previous year in the percentage of arrested cases from 6 per cent. to 13 per cent., coincident with an increased length of stay from one hundred and forty to one hundred and fifty-nine days, is convincing evidence that patients are appreciating more than formerly the advantages of sanatorium treatment, and also that the principles of sanatorium treatment are better understood and better complied with. The longest stay was seven hundred and forty-nine days, and there were 10 patients who remained over six hundred days.

WEIGHTS OF PATIENTS DISCHARGED.

There were 80 men and 79 women who gained 11.05 and 10.78 pounds, respectively, making the total average gain of 159 patients 10.92 pounds. One man gained 40½ pounds and one woman 36 pounds. There were 54 patients who lost weight.

DAILY AVERAGE POPULATION AND COST OF MAINTENANCE.

During the summer months the use of a few tents was continued, with the addition of a small shack for 12 patients, which was fully equipped during the year, making it possible to increase the daily average number of patients to 172 for the year. The appropriation of \$86,600 was based upon a daily average of 170 patients. As this number was exceeded, and as the amount of miscellaneous sales was increased to \$639.15, the net per capita cost for the year has been \$9.55, or 19 cents less than our estimate.

ADDITIONS AND IMPROVEMENTS.

The new pump and motor, for which a special appropriation was authorized, has been installed with satisfactory results. Considerable money has been spent from maintenance for improvements, to accomplish which a much larger force of laborers has been maintained than would be necessary for the routine work of the farm, stable and grounds. So much of this sort of work is necessary in a new institution that it was deemed wise to apply funds that could be spared to promote the general development of the institution as rapidly as possible.

With this end in view, the necessary grading about the buildings has been extended, a substantial driveway to the barn has been built, also a shed for poultry supplies, and 440 square yards of granolithic walks have been put in in the most substantial manner, connecting the ward buildings with the main dining room. The sewage trenches have been extended, and many other smaller pieces of work accomplished, which have been charged up to farm labor. It is believed that everything that has been done will tend to increase the efficiency of the institution and the comfort of the inmates, and has been accomplished at an expense far below that of contract labor on the same work.

FARM, STABLE AND GROUNDS.

The results obtained on the farm in producing vegetables, eggs and poultry have been very satisfactory considering the condition in which we found the land, and the fact that so much of the farm labor has been expended on permanent improvements. It is believed that in another year or two it will be possible to produce all the garden luxuries of the season and to maintain a more satisfactory menu than could possibly be offered if all the farm produce were purchased in the market, and this at a profit. Small orchards of peaches, pears, plums, cherries and apples have been planted, and it is hoped that in a few years all the canning of fruit for the institution can be done on the premises. During the last season the entire year's supply of 625 gallons of tomatoes was canned with the help of the patients.

TREATMENT.

As no provision has yet been made for enlarging our laboratory facilities the routine of handling patients has remained practically the same as last year, except that the use of tuberculin as a therapeutic agent has been extended. The same system of exercise, also, has been followed and in some ways has been improved upon.

Keeping in mind the experience of last year in planting, picking and preparing vegetables, peas, beans, onions, potatoes and tomatoes were planted in places conveniently reached by patients, so that all through the summer months the work of

harvesting and preparing these vegetables, and some of the planting, has been done entirely by patients. On the days when the women did the picking the men did the work of preparing for the kitchen while enjoying their smoke in the grove, and when the men did the harvesting, the shelling of peas and beans was done by the women. The list of farm produce appended represents that which was actually consumed in the institution and the work accomplished by patients in picking and preparing for the kitchen 63½ bushels of green peas, 51½ bushels of string beans, 88 bushels of lima beans, 620 pounds of dried yellow-eyed beans, 31 bushels of dandelions, besides planting of onions and the care of bean poles and tomato plants. The paring of 212 bushels of tomatoes for canning and the gathering of 800 bushels of potatoes represent a considerable value to the institution.

IMPROVEMENTS DESIRED.

There is still urgent need of more beds to care for patients who have to wait from one to three months at this time of year before they can be admitted. It is recommended that a substantial pavilion for 30 patients which shall also contain a few bedrooms for employees, be added to our present equipment. The sanatorium needs nothing more at the present time than a few more private rooms in each ward. The three rooms provided by the original plans are entirely inadequate to accommodate the very sick or dying patients, and it is often necessary to move patients repeatedly in and out of the rooms which we now have. This is a hardship to patients and a great inconvenience in the ward work. Estimates on plans prepared for these additions are \$13,000 for the pavilion and \$6,000 for the additional private rooms.

As a suitable room has been provided in the construction of the recreation hall for a laboratory, an appropriation of \$1,000 is requested for laboratory equipment that we may be in a position to carry on the work of the sanatorium in a scientific and up-to-date manner.

There can no longer be any doubt of the advisability of proceeding at once to acquire land and equipment for the production of our own milk supply. During the year the price of

milk has been increased to 55 cents per can of 8 quarts, so that if we could obtain all we need — 45 cans per day — at this price our expense for the year's supply of milk would be \$9,033.75. It is recommended that an appropriation of \$12,000 be asked for to acquire land, cows and equipment, and that the same land which was considered last year be purchased for this purpose. The land in question has changed hands during the year and has advanced somewhat in price, but it is still considered the best land in the vicinity for dairy purposes.

MEDICAL SERVICE.

Dr. Arthur P. Janes, first assistant, resigned in March to take up private practice, and Dr. Frank L. S. Reynolds was promoted to fill the vacancy. In May, Dr. Edson W. Glidden, University of Maryland, 1907, was appointed to the position of second assistant. Dr. Glidden's mature experience in sanatorium work makes him a most valuable acquisition, and since coming he has done a great deal to improve the mental attitude of our patients. In October Dr. Reynolds accepted the superintendency of the Van Rensselaer County Sanatorium at Troy, N. Y. Dr. Glidden was promoted to take his place. The position of second assistant remains vacant at the close of the year. With these few changes in personnel it is believed that the administration has grown more efficient and the contentment of the patients more general.

For the co-operation and helpful support of your Board I am deeply grateful.

Respectfully submitted,

SUMNER COOLIDGE,

Superintendent.

Total,	\$110,713 65
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Payments.

To treasury of Commonwealth, institution receipts,		\$17,286 08
Maintenance appropriations: —		
Balance November schedule, 1911,	\$6,810 21	
Eleven months' schedules, 1912,	78,721 44	
November advances,	2,764 15	
	<hr/>	88,295 80
Special appropriations: —		
Approved schedules,		2,895 92
Balance, Nov. 30, 1912. —		
In bank,	\$2,146 38	
In office,	89 47	
	<hr/>	2,235 85
		<hr/>
Total,		\$110,713 65

MAINTENANCE.

Appropriation,	\$86,600 00
Expenses (as analyzed below),	86,599 96
	<hr/>
Balance reverting to treasury of Commonwealth,	\$0 04

Analysis of Expenses.

Salaries, wages and labor: —		
General administration,	\$15,821 97	
Medical service,	4,595 53	
Ward service (male),	1,808 87	
Ward service (female),	4,618 08	
Repairs and improvements,	3,054 39	
Farm, stable and grounds,	6,221 39	
	<hr/>	\$36,120 23
Food: —		
Butter,	\$1,181 17	
Beans,	70 58	
Bread and crackers,	120 29	
Cereals, rice, meal, etc.,	271 40	
Cheese,	43 01	
Eggs,	1,976 33	
Flour,	765 30	
Fish,	661 94	
Fruit (dried and fresh),	879 45	
Meats,	7,937 62	
Milk,	6,529 75	
Molasses and syrup,	63 65	
Sugar,	1,058 93	
Tea, coffee, broma, and cocoa,	396 29	
Vegetables,	1,091 45	
Sundries,	483 93	
	<hr/>	23,531 09
Clothing and materials: —		
Boots, shoes and rubbers,	\$56 40	
Clothing,	85 83	
	<hr/>	
Amounts carried forward,	\$142 23	\$59,651 32

<i>Amounts brought forward,</i>	\$142 23	\$59,651 32
Clothing and materials — <i>Con.</i>		
Dry goods for clothing and small wares,	16 13	
Furnishing goods,	25 02	
Hats and caps,	4 00	
Sundries,	1 54	
	<hr/>	188 92
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,470 66	
Brushes, brooms,	57 69	
Carpets, rugs, etc.,	316 80	
Crockery, glassware, cutlery, etc.,	413 61	
Furniture and upholstery,	435 84	
Kitchen furnishings,	667 70	
Wooden ware, buckets, pails, etc.,	8 15	
Sundries,	401 48	
	<hr/>	3,771 93
Heat, light and power: —		
Coal,	\$3,526 32	
Freight on coal,	1,022 01	
Oil,	93 34	
Sundries,	345 62	
	<hr/>	4,987 29
Repairs and improvements: —		
Brick,	\$8 25	
Cement, lime and plaster,	237 51	
Doors, sashes, etc.,	555 11	
Electrical work and supplies,	263 66	
Hardware,	457 77	
Lumber,	1,542 33	
Machinery, etc.,	344 96	
Paints, oil, glass, etc.,	323 07	
Plumbing, steam fitting and supplies,	885 41	
Roofing and materials,	65 71	
Sundries,	322 29	
	<hr/>	5,006 07
Farm, stable and grounds: —		
Blacksmith and supplies,	\$123 85	
Carriages, wagons, etc., and repairs,	433 29	
Fertilizers, vines, seeds, etc.,	1,433 29	
Hay, grain, etc.,	3,039 74	
Harnesses and repairs,	191 45	
Cows,	684 20	
Other live stock,	469 28	
Rent,	25 00	
Tools, farm machines, etc.,	362 44	
Sundries,	279 60	
	<hr/>	7,042 14
Miscellaneous: —		
Books, periodicals, etc.,	\$135 76	
Chapel services,	501 00	
Entertainments,	247 11	
Freight, expressage and transportation,	679 86	
Funeral expenses,	56 00	
	<hr/>	
<i>Amounts carried forward,</i>	\$1,619 73	\$80,647 67

<i>Amounts brought forward,</i>	\$1,619 73	\$80,647 67
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Miscellaneous — Con.

Hose, etc.,	89 03	
Refrigeration,	116 50	
Medicines and hospital supplies,	1,248 21	
Medical attendance, nurses, etc. (extra),	2 00	
Postage,	181 17	
Printing and printing supplies,	294 46	
Paper napkins,	192 40	
Sputum cup fillers,	406 03	
Soap and laundry supplies,	365 05	
Stationery and office supplies,	205 10	
School books and school supplies,	58 68	
Travel and expenses (officials),	477 87	
Telephone and telegraph,	255 23	
Tobacco,	5 73	
Water,	2 25	
Sundries,	432 85	
		5,952 29

Total expenses for maintenance,	\$86,599 96
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SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1912,	\$2,296 63
Appropriations for fiscal year,	600 00
Total,	\$2,896 63
Expended during the year (see statement annexed),	\$2,895 92
Reverting to treasury of Commonwealth,	71
	2,896 63

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$2,235 85
November cash vouchers (paid from advance money),	2,764 15
Due from treasury of Commonwealth account	
November, 1912, schedule,	2,878 52
	\$7,878 52

Liabilities.

Schedule of November bills,	\$2,878 52
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PER CAPITA.

During the year the average number of inmates has been 172.12.

Total cost for maintenance, \$86,599.96.

Equal to a weekly per capita cost of \$9.618.

Receipts from sales, \$543.46.

Equal to a weekly per capita of \$0.06.

All other institution receipts, \$16,742.62.

Equal to a weekly per capita of \$1.859.

Special Appropriations.

Object.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
New barn,	Acts 1910, chap. 118	\$10,000 00	\$25 82	\$9,999 95	\$0 05 ¹
Refrigerating plant,	Acts 1910, chap. 118	2,500 00	97 62	2,500 00	—
Employment building,	Res. 1911, chap. 98	1,800 00	1,799 98	1,799 98	02 ¹
Poultry house,	Res. 1911, chap. 98	500 00	82 30	499 47	53 ¹
Sewage,	Res. 1911, chap. 98	500 00	62 31	499 99	01 ¹
Additional water supply,	Res. 1911, chap. 136	3,500 00	227 99	3,500 00	—
Pump and motor,	Res. 1912, chap. 98	600 00	599 90	599 90	10 ¹
		\$19,400 00	\$2,895 92	\$19,399 29	—

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

SUMNER COOLIDGE,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

Real estate:—

Land, number of acres 75,	\$5,075 00
Buildings,	94,310 00
Power plant, laundry, machinery, heating, water and sewerage systems, and improvements,	24,825 00
<hr/>	
Total real estate,	\$124,210 00

Personal estate:—

Food,	\$2,132 74
Clothing,	221 43
Furnishings,	16,644 53
Heat, light and power,	1,686 30
Repairs and improvements,	683 82
Farm, stable and grounds,	7,779 12
Miscellaneous,	3,546 37
<hr/>	
Total personal property,	\$32,694 31

FARM PRODUCE.

Lima beans, 88 bushels, at \$0.80 to \$2.50,	\$133 32
String beans, 51½ bushels, at \$0.50 to \$2.50,	58 85
Yellow-eyed beans, 120 pounds, at \$0.04½ to \$0.04¾,	5 50
Beets, 44½ bushels, at \$0.20 to \$2,	31 36
Cabbage, 38 barrels, at \$0.55 to \$1.25,	30 82
Calf skins, 2, at \$1.80,	3 60
Cantaloupes, 1,501, at \$0.05 to \$0.07,	83 85
Carrots, 27½ bushels, at \$0.60 to \$2,	27 93
Celery, 84¾ dozens, at \$0.70 to \$1,	67 94
Corn, 189½ bushels, at \$0.30 to \$1.20,	116 76
Cucumbers, 67 bushels, at \$0.75 to \$1.50,	67 73
Cucumbers, pickling, 5,078, at \$0.00½ to \$0.01,	32 00
Currants, 15 quarts, at \$0.12,	1 80
Dandelions, 31 bushels, at \$0.30 to \$0.60,	14 50
Hay, 1¾ tons, at \$25,	43 75
Oat hay, 1½ tons, at \$25,	37 50
Timothy hay, 1 ton, at \$25,	25 00
Lettuce, 88 bushels, at \$0.20 to \$0.80,	38 08
Millet, 1 ton, at \$18,	18 00
Milk, 1,713⅞ cans, at \$0.45 to \$0.55,	823 29
Onions, 45½ bushels, at \$0.50 to \$1.40,	36 96
Parsley, 12 bunches, at \$0.05 to \$0.10,	1 10
Parsnip, 4½ bushels, at \$0.65 to \$1,	3 28
Peas, 63½ bushels, at \$1.25 to \$2.50,	130 00
Peppers, green, 3¼ bushels, at \$0.75 to \$1.60,	3 15
Pigs, alive, 3, at \$3 to \$3.50,	10 00
Pork, 5,316½ pounds, at \$0.08½ to \$0.09½,	473 81
Potatoes, 853¾ bushels, at \$0.45 to \$2,	459 96
Radishes, 36 bushels, at \$0.25 to \$0.75,	19 20
Raspberries, 8 quarts, at \$0.15,	1 20
Rhubarb, 673 pounds, at \$0.01 to \$0.03,	9 47
Rye, 2 bushels, at \$2.50,	5 00
Rye straw, 2 tons, at \$18,	36 00
Spinach, 114 bushels, at \$0.30 to \$1,	64 85
Squash, summer, 295, at \$0.05 to \$0.08,	16 78
Squash, winter, 42 bushels, at \$0.25 to \$0.67,	21 63
Strawberries, 579 quarts, at \$0.15 to \$0.20,	104 45
Tomatoes, green, 34½ bushels, at \$0.60 to \$0.75,	22 20
Tomatoes, ripe, 299½ bushels, at \$0.70 to \$4.50,	390 50
Turnip, 17½ bushels, at \$0.50 to \$0.75,	9 95
Veal, 345 pounds, \$0.13 to \$0.17,	52 63
Watermelon, 326, at \$0.10 to \$0.20,	52 80
	\$3,586 50
Amount carried forward,	\$3,586 50

Amount brought forward, \$3,586 50

Poultry produce:—

Chicken, 2,021 pounds, at \$0.20 to \$0.35,	\$532 21	
Eggs, 3,852 $\frac{5}{12}$ dozens, at \$0.24 to \$0.50,	1,352 70	
Fowl, 1,467 $\frac{3}{4}$ pounds, at \$0.14 to \$0.16,	215 12	
Hen manure, 60 barrels, at \$0.50,	30 00	
		<hr/>
		2,130 03

Stock on hand Dec. 1, 1912:—

Yellow-eyed beans, 9 bushels, at \$2.80,	\$25 20	
Beets, 50 bushels, at \$0.60,	30 00	
Mangel beets, 11 $\frac{1}{10}$ tons, at \$15,	165 15	
Cabbage, No. 1, 170 $\frac{3}{4}$ barrels, at \$0.75 to \$1,	148 06	
Cabbage, No. 2, 30 barrels, at \$0.40,	12 00	
Carrots, 33 bushels, at \$0.50 to \$0.65,	20 85	
Celery, 180 dozen, at \$0.70,	126 00	
Onions, 38 bushels, at \$0.65,	24 70	
Parsnips, 49 bushels, at \$0.60,	29 40	
Squash, winter, 4 tons, at \$30,	120 00	
Turnip, 112 bushels, at \$0.40 to \$0.50,	53 20	
		<hr/>
		754 56

Seed:—

Lima beans, 1 bushel, at \$6.40,	\$6 40	
Bountiful beans, $\frac{1}{2}$ bushel, at \$6.40,	3 20	
Crosby corn, $\frac{1}{2}$ bushel, at \$5.60,	2 80	
Potter corn, $\frac{1}{2}$ bushel, at \$4.80,	2 40	
Peas, 3 pecks, at \$4,	12 00	
		<hr/>
		26 80

\$6,497 89

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	85	78	163
Number received during the year,	187	155	342
Number discharged or died during the year, . . .	173	153	326
Number at end of fiscal year,	99	80	179
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	93.484	78.639	172.123
Average number of officers and employees during the year,	49	23	72

Expenditures.

Current expenses:—

1. Salaries and wages,	\$36,120 23
2. Clothing,	188 92
3. Subsistence,	23,531 09
4. Ordinary repairs and improvements,	5,006 07
5. Office, domestic and outdoor expenses,	21,753 65
Total,	\$86,599 96

Extraordinary expenses:—

1. New buildings, land, etc.,	1,908 10
2. Permanent improvements to existing buildings and grounds,	987 82
Total,	\$2,895 92
Grand total,	\$89,495 88

Summary of Current Expenses.

Total expenditures,	\$89,495 88
Deducting extraordinary expenses,	2,895 92
	<hr/>
	\$86,599 96
Deducting amount of sales,	639 15
	<hr/>
	\$85,960 81

Dividing this amount by the daily average number of patients, 172.12, gives a cost for the year of \$499.42, equivalent to an average weekly net cost of \$9.55.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted, Dec. 1, 1911, to Nov. 30, 1912, inclusive.	187	155	342
Number of patients discharged, Dec. 1, 1911, to Nov. 30, 1912, inclusive.	173	153	326
Number of deaths (included in preceding item),	32	27	59
Number remaining in sanatorium, Nov. 30, 1912,	99	80	179
Daily average number of patients,	93.484	78.639	172.123
Daily average number of bed patients, Dec. 1, 1911, to Nov. 30, 1912.	31.68	26.03	77.71

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	65	69	134
Single,	114	72	186
Widowed,	5	10	15
Divorced,	3	2	5
Separated,	—	2	2
Totals,	187	155	342

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
1 to 14 years,	4	3	7
14 to 20 years,	25	27	52
20 to 30 years,	73	59	132
30 to 40 years,	49	42	91
40 to 50 years,	22	15	37
Over 50 years,	14	8	22
Unknown,	—	1	1
Totals,	187	155	342

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	80	26	19	63	19	16	143	45	35
Other New England States,	14	10	12	14	13	10	28	23	22
Other States,	9	7	7	6	5	6	15	12	13
Total native,	103	43	38	83	37	32	186	80	70
Other countries: —									
Austria,	—	1	—	—	1	2	—	2	2
Azores,	1	1	1	—	—	—	1	1	1
Canada,	11	23	25	21	29	33	32	52	58
Denmark,	—	—	—	—	1	1	—	1	1
England,	6	13	11	3	5	4	9	18	15
Finland,	1	1	1	—	—	—	1	1	1
Germany,	2	4	5	2	5	5	4	9	10
Greece,	2	2	2	1	1	1	3	3	3
Ireland,	17	46	51	19	37	37	36	83	88
Italy,	4	5	5	7	8	8	11	13	13
Newfoundland,	4	3	2	1	2	3	5	5	5
Poland,	2	2	2	1	2	2	3	4	4
Portugal,	2	1	1	1	2	2	3	3	3
Russia,	15	15	16	8	8	8	23	23	24
Scotland,	5	8	7	2	5	4	7	13	11
Sweden,	5	6	5	3	5	5	8	11	10
Syria,	3	3	3	—	—	—	3	3	3
Turkey,	2	2	2	—	1	1	2	3	3
Western Islands,	1	1	1	1	2	2	2	3	3
Total foreign,	83	137	140	70	114	118	153	251	258
Unknown,	1	7	9	2	4	5	3	11	14
Totals,	187	187	187	155	155	155	342	342	342

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Arlington, . . .	1	1	2	Milford,	3	1	4
Attleborough, . . .	5	3	8	Nahant,	1	—	1
Beverly,	1	—	1	Natick,	1	1	2
Blackstone,	1	—	1	New Bedford,	1	9	10
Boston,	100	69	169	Newburyport,	1	—	1
Bourne,	1	—	1	Newton,	2	2	4
Braintree,	1	1	2	Norton,	—	1	1
Bridgewater,	—	1	1	Orleans,	—	1	1
Brockton,	8	15	23	Plainville,	2	—	2
Brookline,	1	2	3	Plymouth,	—	2	2
Cambridge,	3	1	4	Provincetown,	—	2	2
Canton,	2	1	3	Quincy,	4	3	7
Chelsea,	4	—	4	Randolph,	1	—	1
Dedham,	2	—	2	Rockland,	2	—	2
Douglas,	—	1	1	Rutland,	1	—	1
Duxbury,	1	—	1	Scituate,	1	—	1
Easton,	2	—	2	Sharon,	1	—	1
Ellsworth, Me., . . .	—	1	1	Somerset,	—	1	1
Everett,	1	—	1	Somerville,	1	2	3
Falmouth,	1	—	1	Sudbury,	1	—	1
Fall River,	10	7	17	Taunton,	6	3	9
Foxborough,	—	1	1	Topsfield,	—	1	1
Framingham,	—	2	2	Uxbridge,	1	—	1
Hanover,	1	—	1	Walpole,	—	2	2
Hanson,	—	1	1	Wareham,	1	1	2
Harwich,	—	1	1	Watertown,	1	—	1
Haverhill,	1	—	1	Wellesley,	—	1	1
Lynn,	—	2	2	Wellfleet,	—	1	1
Malden,	—	2	2	Westborough,	—	1	1
Medford,	1	1	2	Whitman,	1	2	3
Melrose,	—	1	1	Worcester,	4	4	8
Middleborough, . . .	2	—	2		187	155	342

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Accountant,	1	-	1	Laundress,	-	5	5
Agent,	1	-	1	Machinist,	9	-	9
Bacteriologist's assistant,	1	-	1	Mail carrier,	1	-	1
Bartender,	1	-	1	Mason,	2	-	2
Bell boy,	1	-	1	Merchant,	4	-	4
Blacksmith,	2	-	2	Messenger,	1	-	1
Bookbinder,	1	1	2	Milliner,	-	2	2
Bookkeeper,	2	1	3	No occupation,	1	3	4
Brakeman,	2	-	2	Operative,	39	24	63
Butcher,	1	-	1	Packer,	1	-	1
Candy maker,	1	-	1	Painter,	3	-	3
Canvasser,	1	-	1	Pedler,	3	-	3
Carpenter,	8	-	8	Piano maker,	1	-	1
Cigar maker,	1	-	1	Plumber,	1	-	1
Clerk,	13	3	16	Potter,	1	-	1
Compositor,	-	1	1	Printer,	4	-	4
Conductor,	2	-	2	Riveter,	1	-	1
Cook,	5	2	7	Salesman,	4	1	5
Domestic,	-	30	30	Seamstress,	-	2	2
Dressmaker,	-	2	2	Shipper,	1	-	1
Engineer,	1	-	1	Shoemaker,	3	-	3
Factory foreman,	2	-	2	Silversmith,	1	-	1
Factory inspector,	1	-	1	Stableman,	3	-	3
Fisherman,	2	-	2	Steam fitter's helper, . .	2	-	2
Footman,	1	-	1	Stenographer,	-	2	2
Foreman,	4	-	4	Stonecutter,	2	-	2
Furniture finisher,	1	-	1	Storekeeper,	-	2	2
Gardener,	1	-	1	Student,	8	7	15
Golfstick maker,	1	-	1	Tailor,	6	1	7
Governess,	-	1	1	Teacher,	-	1	1
Hatter,	1	-	1	Teamster,	4	-	4
Hod carrier,	1	-	1	Telegraph operator, . . .	1	-	1
Horseshoer,	1	-	1	Telephone operator, . . .	1	2	3
Hostler,	2	-	2	Tinsmith,	1	-	1
Housekeeper,	-	4	4	Undertaker's assistant, . .	1	-	1
Housewife,	-	53	53	Waiter,	3	5	8
Jobber,	2	-	2	Wiper, locomotive, . . .	1	-	1
Kitchen man,	1	-	1		187	155	342
Laborer,	7	-	7				

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	12	7	19
Moderately advanced,	44	44	88
Advanced,	125	104	229
Nontuberculous,	1	—	1
Not examined,	5	—	5
Totals,	187	155	243

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Disease arrested,	13	31	44	13.49
Improved,	69	43	112	34.36
Progressive,	33	29	62	19.02
Died,	32	27	59	18.10
Not considered,	26	23	49	15.03
Totals,	173	153	326	100.00

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	4	3	7
1 to 2 months,	—	1	1	9	3	12
2 to 3 months,	1	—	1	5	3	8
3 to 4 months,	1	1	2	2	3	5
4 to 5 months,	1	1	2	2	3	5
5 to 6 months,	2	1	3	—	—	—
6 to 7 months,	2	1	3	2	2	4
7 to 8 months,	1	2	3	2	2	4
8 to 9 months,	1	1	2	1	2	3
9 to 10 months,	1	1	2	2	2	4
10 to 11 months,	2	—	2	1	1	2
11 to 12 months,	—	2	2	1	—	1
1 to 2 years,	7	9	16	1	3	4
2 to 3 years,	4	2	6	—	—	—

TABLE 9. — *Deaths* — Concluded.

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
3 to 4 years,	1	2	3	-	-	-
4 to 5 years,	-	1	1	-	-	-
5 to 6 years,	3	1	4	-	-	-
6 to 7 years,	1	-	1	-	-	-
9 to 10 years,	-	1	1	-	-	-
10 to 11 years,	1	-	1	-	-	-
13 to 14 years,	1	-	1	-	-	-
Unknown,	2	-	2	-	-	-
Totals,	32	27	59	32	27	59

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis pulmonalis,	30	25	55
Tubercular meningitis,	1	2	3
Sarcomatosis,	1	-	1
Total,	32	27	59

TABLE 11. — *Classification of Discharges.*

	Males.	Females.	Totals.
Total number discharged,	173	153	326
Number died,	32	27	59
	141	126	267
Not considered,	26	23	49
Total number considered,	115	103	218

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D.,	<i>Superintendent.</i>
ROY MORGAN, M.D., . . .	<i>Assistant Superintendent and Physician.</i>
JOHN I. PINCKNEY, M.D., . .	<i>Physician.</i>

CARRIE A. BAILEY,	<i>Supervisor of Nurses.</i>
HERBERT W. SMITH,	<i>Steward.</i>
WALTER PROUTY,	<i>Chief Engineer.</i>
FRANK P. BUXTON,	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN: — I have the honor of presenting to you the third annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1912.

Three hundred and nine patients were admitted during the year, and 165 remained from the preceding year, making a total of 474 patients who received treatment. Three hundred and four have been discharged, leaving 170 in the sanatorium Dec. 1, 1912.

The daily average number of patients has been 176.3, which is an increase of 20 over the previous year. This was made possible by the increased locker-room space, which was added in 1911, and the use of our porches for extra beds. By thus using our porch room we can care for 185 patients during the summer months, but during the extreme cold weather we have to limit the number of beds to 170.

LENGTH OF RESIDENCE.

The average length of stay has increased from one hundred and forty-five days in 1911 to one hundred and eighty-five days the past year. Twenty-eight stayed less than thirty days; 273 stayed from one month to twelve months; 27 from one to two years; 4, more than two years. The longest length of stay was nine hundred and eighty days.

Of the 309 admitted during the year, 51 paid their own board, 171 were supported by cities and towns, 65 were State charges, and the status of 22 has not yet been determined.

CHILDREN.

The number of children under fourteen years of age increased from 12, in 1911, to 71. It was found advisable to segregate the children into separate buildings as far as possible.

Therefore for several months past the west pavilion has been occupied exclusively by girls and one-half of the east pavilion by boys. An attendant, or orderly, sleeps in the pavilions and so maintains discipline and order.

In March Miss Pratt, a trained teacher, was engaged, and since then regular school work has been carried on. At first there were but 12 pupils, but this number increased rapidly until the average for the past three months has been about 50.

Until our recreation room was finished, in September, one ward of the west pavilion was used for the school. Recently, desks have been placed in the recreation room, and with open windows this building makes a very satisfactory schoolroom.

The children are graded according to their scholarship, and the first three grades attend the afternoon session from 2.30 to 4.30. These children now number 23. The other pupils attend the morning session from 9.30 to 11.30. This group numbers 28, and consists of children who are doing the work of the higher grammar grades, and 3 who are taking up high school studies.

The school has accomplished a great deal in allowing the children to continue school work, which otherwise would have been stopped on account of illness. They have made good progress in their studies; furthermore, I consider that the discipline and regular life enforced on the children by the school routine has been of marked therapeutic value.

During vacations and holidays the children are so active that they play too hard, walk and run so much that they get overtired, and as a consequence frequently have a rise of temperature necessitating their being kept in bed for a day or two.

Children must be kept busy, but their day should be so planned that the amount of mental effort and physical exercise is so well balanced that they do not get exhausted.

It has been very gratifying to find that the children respond quickly to sanatorium treatment. Even when their disease is far advanced they often gain rapidly. A much larger percentage of children will recover than is the case of adults in a corresponding stage of tuberculosis.

LABORATORY WORK.

A large amount of laboratory work has been done this year. This consisted of the routine sputum examinations and the preparation of vaccines, which have been given to a number of patients.

IMPROVEMENTS.

The dairy barn, for which an appropriation was granted last year, is ready for use and is very satisfactory in its arrangement. Fifteen cows have been purchased out of a special appropriation and are now supplying part of our milk.

On account of the difficulty of obtaining an adequate milk supply from the neighborhood it would be advisable to purchase additional cows.

The new barn was planned to care for 40 cows, but I think from 30 to 35 will supply sufficient milk for our use.

Grade Crossing.

The commission appointed to consider the abolition of two grade crossings and substitute therefor an underpass have decided that the underpass should be constructed. A plan satisfactory to all parties has been agreed upon, and the work on this much-needed improvement will be begun in the spring.

Recreation Room.

A room 36 by 30 feet has been added to our dining room in such a way that it can be used as a stage for entertainments, while the dining hall serves as an auditorium. We also use this room for school purposes, for religious services, and evenings for the patients as a recreation room.

IMPROVEMENTS NEEDED.

Children's Ward.

We have now 60 children from five to sixteen years of age. It is undesirable for many reasons, both from the standpoint of the children and the adult patients, to have them cared for in the same ward building. The admission of so many children from all parts of the Commonwealth lessens the number of

available beds for adult patients from the western part of the State. At the present time there are more than 100 applicants waiting to gain admission to the Westfield State Sanatorium. This delay is not only a hardship, but means in many cases the loss of an opportunity to get well. A patient with tuberculosis often becomes far advanced during the three or four months' delay now necessary. Children respond to sanatorium treatment quickly, and often when they have advanced disease recovery is possible. Caring for tuberculous children will do more toward lessening the number of deaths from consumption than any other method of prevention or control.

Plans have been made for a building to accommodate 60 children and 10 employees. Estimated cost of building and equipment, \$20,000.

Power House and Laundry Building.

Our present power house is in the basement of the service building. It was located there because the original appropriation for constructing the institution was too small to permit of a separate building. It has been a constant source of annoyance because of the vibration of machinery, and the dirt from the coal dust tracks and blows into the kitchen and dining rooms. We would move the present laundry into the new building on account of the ever-present danger of fires in laundries. A fire in the building in which the laundry and power plant are now located would endanger the whole institution, as it is the central building of the group. The present laundry could readily be made into a dining room for the patients in the children's ward, and would be needed for that purpose. Besides moving our present power plant, we should need as additional equipment one new boiler, one new reciprocating engine and a water pump. This building also provides twelve rooms for employees. The plans for a building have been made. The estimated cost for construction and equipment is \$17,000.

MEDICAL SERVICE.

On Aug. 1, 1912, Dr. Harry S. Wagner resigned his position as assistant superintendent to become superintendent of the Hartford County Tuberculosis Sanatorium, Hartford, Conn.

Dr. Roy Morgan, who until then was second assistant physician, was promoted to the position left vacant by Dr. Wagner. Dr. John I. Pinckney was then appointed second assistant physician.

There have been no changes in the heads of departments.

We are indebted to many Westfield and Springfield people for their good will, as shown by their visits to the sanatorium and many gifts to patients. Books have been contributed by many individuals and by the Worcester and Westfield libraries, so that our patients' library now comprises nearly 400 volumes.

Religious services have been held nearly every Sunday during the year. The two chaplains, Rev. Fr. O'Malley and Rev. Robert Keating Smith, officiating on alternate Sundays. I appreciate very much their sympathetic co-operation in the care of the patients, and their willing response to all the calls made upon them.

I am grateful to the officers and the many other faithful employees for their efficient work during the past year.

The pleasant relations maintained with the Board of Trustees is a source of much satisfaction, and I deeply appreciate their support and confidence.

Respectfully submitted,

HENRY D. CHADWICK,
Superintendent.

REPORT OF THE TREASURER.

To the Trustees of the Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1912:—

CASH ACCOUNT.

Balance Dec. 1, 1911,	\$1,162 47
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Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$6,209 85
Cities and towns,	18,520 10

\$24,729 95

Sales:—

Food,	\$383 66
Miscellaneous,	45 25

Farm, stable and grounds:—

Pigs and hogs,	1,159 69
Vegetables,	15 00
Sundries,	50

1,604 10

Miscellaneous receipts:—

Interest on bank balances,	\$104 80
Sundries,	9 66

114 46

26,448 51

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1911,	\$586 02
Advance money (amount on hand Novem- ber 30),	5,000 00
Approved schedules of 1912,	81,946 58

87,532 60

Special appropriations,	7,412 34
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7,412 34

Total,	\$122,555 92
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Payments.

To treasury of Commonwealth, institution receipts,	\$26,448 51
Maintenance appropriations: —	
Balance November schedule, 1911,	\$1,748 49
Eleven months' schedules, 1912,	81,946 58
November advances,	3,723 36
	<hr/>
	87,418 43
Special appropriations: —	
Approved schedules,	7,412 34
Balance, Nov. 30, 1912: —	
In bank,	\$1,202 54
In office,	74 10
	<hr/>
	1,276 64
	<hr/>
Total,	\$122,555 92

MAINTENANCE.

Appropriation,	\$87,000 00
Expenses (as analyzed below),	86,999 81
	<hr/>
Balance reverting to treasury of Commonwealth,	\$0 19

Analysis of Expenses.

Salaries, wages and labor: —	
General administration,	\$14,931 89
Medical service,	4,849 97
Ward service (male),	2,279 04
Ward service (female),	4,409 31
Repairs and improvements,	2,115 66
Farm, stable and grounds,	6,838 79
	<hr/>
	\$35,424 66
Food: —	
Butter,	\$1,805 42
Beans,	34 06
Bread and crackers,	83 14
Cereals, rice, meal, etc.,	171 27
Cheese,	81 07
Eggs,	2,753 56
Flour,	1,245 74
Fish,	764 77
Fruit (dried and fresh),	932 28
Meats,	11,342 90
Milk,	4,991 04
Molasses and syrup,	28 70
Sugar,	950 62
Tea, coffee, broma and cocoa,	494 87
Vegetables,	1,905 91
Sundries,	720 47
	<hr/>
	28,305 82
	<hr/>
Amount carried forward,	\$63,730 48

<i>Amount brought forward,</i>		\$63,730 48
Clothing and materials: —		
Boots, shoes and rubbers,	\$49 90	
Clothing,	56 98	
Dry goods for clothing and small wares,	10 27	
Furnishing goods,	45 63	
Hats and caps,	1 70	
Sundries,	15 57	
		180 05
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,313 28	
Brushes, brooms,	148 92	
Carpets, rugs, etc.,	118 74	
Crockery, glassware, cutlery, etc.,	379 75	
Furniture and upholstery,	451 16	
Kitchen furnishings,	554 78	
Wooden ware, buckets, pails, etc.,	140 57	
Sundries,	531 52	
		3,638 72
Heat, light and power: —		
Coal,	\$1,334 19	
Freight on coal,	2,524 65	
Wood,	29 39	
Oil,	231 99	
Sundries,	149 66	
		4,269 88
Repairs and improvements: —		
Cement, lime and plaster,	\$241 85	
Doors, sashes, etc.,	23 00	
Electrical work and supplies,	468 74	
Hardware,	524 88	
Lumber,	949 19	
Machinery, etc.,	1,248 50	
Paints, oil, glass, etc.,	576 38	
Plumbing, steam fitting and supplies,	923 53	
Roofing and materials,	49 16	
Sundries,	415 71	
		5,420 94
Farm, stable and grounds: —		
Blacksmith and supplies,	\$159 84	
Carriages, wagons, etc., and repairs,	370 84	
Fertilizers, vines, seeds, etc.,	670 83	
Hay, grain, etc.,	953 15	
Harnesses and repairs,	20 34	
Horses,	300 00	
Horse hire,	187 00	
Rent,	10 00	
Tools, farm machines, etc.,	270 52	
Sundries,	343 87	
		3,286 39
Miscellaneous: —		
Books, periodicals, etc.,	\$61 78	
Religious services,	490 00	
Freight, expressage and transportation,	690 96	
<i>Amounts carried forward,</i>	\$1,242 74	\$80,526 46

<i>Amounts brought forward,</i>		\$1,242 74	\$80,526 46
<i>Miscellaneous — Con.</i>			
Funeral expenses,		95 00	
Entertainments,		145 50	
Ice,		9 30	
Medicines and hospital supplies,		1,670 93	
Medical attendance, nurses, etc. (extra),		33 00	
Postage,		173 72	
Printing and printing supplies,		171 69	
Soap and laundry supplies,		690 09	
Stationery and office supplies,		315 61	
Cuspidor supplies,		599 74	
School books and school supplies,		102 87	
Travel and expenses (officials),		405 96	
Telephone and telegraph,		392 03	
Tobacco,		12 00	
Sundries,		413 17	
			6,473 35
Total expenses for maintenance,			\$86,999 81

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1911,		\$2,268 79
Appropriations for fiscal year,		7,000 00
Total,		\$9,268 79
Expended during the year (see statement annexed),	\$7,412 34	
Reverting to treasury of Commonwealth,	42	
		7,412 76
Balance Nov. 30, 1912,		\$1,856 03

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,276 64	
November cash vouchers (paid from advance money),	3,723 36	
Due from treasury of Commonwealth account		
November, 1912, schedule,	53 23	
		\$5,053 23

Liabilities.

Schedule of November bills,	\$5,053 23
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PER CAPITA.

During the year the average number of inmates has been 176.3.

Total cost for maintenance, \$86,999.81.

Equal to a weekly per capita cost of \$9.438+.

Receipts from sales, \$1,604.10.

Equal to a weekly per capita of \$0.174+.

All other institution receipts, \$24,844.41.

Equal to a weekly per capita of \$2.695+.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Recreation building,	Acts 1911, chap. 138	\$1,800 00	\$1,799 66	\$1,799 66	\$0 34 ¹
Grading,	Acts 1911, chap. 138	1,000 00	468 71	999 92	08 ¹
Pignatare farm,	Acts 1912, chap. 92	3,500 00	3,500 00	3,500 00	—
Cow stable,	Acts 1912, chap. 92	2,000 00	1,643 97	1,643 97	356 03
Cows,	Acts 1912, chap. 92	1,500 00	—	—	1,500 00
		\$9,800 00	\$7,412 34	\$7,943 55	\$1,856 03

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

HENRY D. CHADWICK,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,
Assistant Supervisor of Accounts.

VALUATION.

Real estate: —

One hundred and seventy-eight acres of land consisting of — grounds, 20 acres; tillage, 30 acres; mowing, 40 acres; pasturage, 10 acres; woodland, 40 acres; waste land, 38 acres; value,		\$8,540 00
Wards and pavilions,		35,550 00
Employees' buildings,		7,200 00
Administration building,		20,425 00
Farm buildings,		6,575 00
Miscellaneous buildings,		19,425 00
Water system,		1,825 00
Sewerage system,		3,288 00
Telephone system,		75 00
Roads and ways,		600 00
Grading,		2,000 00
Total,		<u>\$105,503 00</u>
Value of personal property, according to inven- tory of Nov. 30, 1912,		38,293 21
Grand total,		<u>\$143,796 21</u>

PRODUCE OF FARM.

2½ bushels peas.	17 bushels string beans.
50 bushels radishes.	700 heads cauliflower.
165 bushels onions.	10 bushels egg plant.
200 bushels tomatoes.	70 boxes lettuce.
50 bushels cucumbers.	30 bushels top onions.
5,000 pounds squash.	20 bushels summer squash.
330 dozen sweet corn.	300 bunches parsley.
300 bushels carrots.	41 bushels peppers.
170 bushels beets.	36 bushels spinach.
50 bushels parsnips.	50 bushels Swiss chard.
25 bushels turnips.	50 bushels rye.
10,000 pounds cabbage.	500 bushels corn.
20,000 celery plants.	20 tons meadow hay.
100 bunches leek.	10 tons herds grass.
25 pounds horse-radish.	250 pounds rhubarb.
5,000 pounds pumpkins.	

Received from sale of pigs and hogs, \$1,159.69.

Pork used by sanatorium to the value of \$452.43.

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number received during the year,	158	151	309
Number passing out of the institution during the year, .	162	142	304
Number at the end of the fiscal year in the institution, .	86	84	170
Daily average attendance (number of inmates actually present) during the year.	90	86	176.3
Average number of employees and officers during the year,	47.3	23.2	70.5

Expenditures.

Current expenses:—

1. Salaries and wages,	\$35,424 66	
2. Clothing,	180 05	
3. Subsistence,	28,305 82	
4. Ordinary repairs,	5,420 94	
5. Office, domestic and outdoor expenses,	17,668 34	
Total,		\$86,999 81

Extraordinary expenses:—

1. Permanent improvements to existing buildings and new construction,	7,412 34
Grand total,	\$94,412 15

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted December 1 to November 30, inclusive.	158	151	309
Number of patients discharged December 1 to November 30, inclusive.	162	142	304
Number of deaths (included in preceding item), . . .	42	31	73
Daily average number of patients,	—	—	176.3
Number in sanatorium Dec. 1, 1911,	—	—	165
Number remaining Nov. 30, 1912,	—	—	170

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	42	47	89
Single,	109	101	210
Widowed,	7	3	10
Totals,	158	151	309

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	34	37	71
14 to 20 years,	22	30	52
21 to 30 years,	45	47	92
31 to 40 years,	35	30	65
41 to 50 years,	16	6	22
51 to 60 years,	5	—	5
61 to 70 years,	—	1	1
Unknown,	1	—	1
Totals,	158	151	309

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States:—									
Massachusetts,	89	16	21	66	21	15	155	37	36
New England States,	7	9	10	14	15	11	21	24	21
Other States,	6	9	5	10	8	8	16	17	13
Total native,	102	34	36	90	44	34	192	78	70
Other countries:—									
Austria,	4	4	3	4	3	—	8	7	3
Canada,	18	29	32	15	19	24	33	48	56
England,	1	3	4	3	4	6	4	7	10
Finland,	2	7	7	5	6	6	7	13	13
France,	—	1	1	—	1	—	—	2	1
Germany,	1	5	8	—	2	1	1	7	9
Greece,	1	1	1	—	—	—	1	1	1
Ireland,	8	29	20	9	29	30	17	58	50
Italy,	5	4	5	3	7	7	8	11	12
Poland,	2	2	2	2	2	2	4	4	4
Portugal,	1	1	1	—	—	—	1	1	1
Russia,	3	6	6	8	11	12	11	17	18
Scotland,	2	4	3	—	3	3	2	7	6
South Africa,	—	1	—	—	—	—	—	1	—
Spain,	—	1	—	—	—	—	—	1	—
Sweden,	4	6	5	5	9	9	9	15	14
Switzerland,	2	3	1	—	—	—	2	3	1
Syria,	1	1	1	—	—	—	1	1	1
Unknown,	1	16	22	7	11	17	8	27	39
Totals,	158	158	158	151	151	151	309	309	309

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Adams,	4	Mittineague,	1
Athol,	1	Montague,	1
Amherst,	1	Newburyport,	5
Baldwinsville,	1	Newton,	1
Bay State,	1	New Bedford,	3
Belchertown,	1	North Easton,	1
Blackstone,	1	Northampton,	9
Boston,	40	North Adams,	2
Bridgewater,	1	Oakham,	1
Brockton,	6	Orange,	1
Brookfield,	1	Otis,	1
Brookline,	4	Otter River,	1
Cambridge,	7	Pepperell,	1
Canton,	1	Pittsfield,	6
Chicopee,	14	Readville,	1
Cliftondale,	1	Rutland,	2
Clinton,	1	Somerville,	2
Concord,	1	Swampscott,	3
Dracut,	1	Stockbridge,	1
Easthampton,	1	South Hadley Falls,	1
Everett,	2	South Basham,	1
Fitchburg,	14	Springfield,	38
Florence,	1	Taunton,	1
Gardner,	6	Thorndike,	1
Grandville Center,	1	Three Rivers,	1
Greensdale,	1	Tewksbury,	3
Hatfield,	2	Turners Falls,	1
Haydensville,	1	Wollaston,	2
Holyoke,	8	Ware,	3
Hopkinton,	1	Waltham,	4
Kingston,	1	Westminster,	1
Lee,	1	Webster,	1
Leominster,	11	Westfield,	2
Longmeadow,	1	Winchester,	1
Ludlow,	2	Worcester,	37
Lowell,	3	West Springfield,	2
Lynn,	8	Whitinsville,	2
Medford,	1	Williamansett,	1
Marblehead,	1	Williamsburg,	1
Middletown,	1		

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Army,	1	-	1	Mason,	2	-	2
At home,	-	1	1	Messenger boy,	2	-	2
Bartender,	1	-	1	Machinist,	15	-	15
Barber,	1	-	1	Milkman,	1	-	1
Bookkeeper,	2	2	4	Motorman,	1	-	1
Bootblack,	1	-	1	Musician,	1	-	1
Box maker,	2	1	3	Milliner,	-	2	2
Carpenter,	3	-	3	Mill hand,	14	-	14
Chauffeur,	1	-	1	Molder,	2	-	2
Clerk,	8	3	11	Nurse,	2	2	2
Cloth inspector,	1	-	1	Photographer,	1	-	1
Conductor,	1	-	1	Painter,	1	-	1
Comb maker,	1	-	1	Plumber,	1	-	1
Coachman,	1	-	1	Peddler,	2	-	2
Domestic,	-	13	13	Salesman,	1	-	1
Dressmaker,	-	1	1	Shoemaker,	7	2	9
Factory hand,	3	9	12	Shipper,	1	-	1
Farmer,	3	-	3	School,	36	47	83
Fireman,	1	-	1	Stenographer,	2	3	5
Freight handler,	3	-	3	Stone worker,	1	-	1
Granite cutter,	1	-	1	Steam fitter,	1	-	1
Gardener,	3	-	3	Tailor,	2	1	3
Grocer,	1	-	1	Teamster,	7	-	7
Housewife,	-	60	60	Telephone operator,	1	-	1
Iron molder,	1	-	1	Timekeeper,	1	-	1
Janitor,	1	-	1	Waitress,	-	1	1
Jeweler,	3	-	3	Watchmaker,	3	-	3
Laborer,	4	-	4	Weaver,	2	3	5
Laundry,	-	1	1				

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	28	33	61
Moderately advanced,	26	31	57
Far advanced,	102	84	186
Nontuberculous,	2	3	5
Totals,	158	151	309

TABLE 8. — *Condition of Discharges.*

	Males.	Females.	Totals.
Disease arrested,	37	43	80
Improved,	27	29	56
Progressive,	42	26	68
Died,	42	31	73
Nontuberculous,	2	3	5
Not considered (remained less than one month),	12	10	22
Totals,	162	142	304

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			SANATORIUM RESIDENCE.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	3	1	4
1 to 3 months,	1	1	2	9	11	20
3 to 6 months,	1	2	3	10	6	16
6 to 9 months,	1	1	2	7	7	14
9 months to 1 year,	4	2	6	7	1	8
1 to 2 years,	17	12	29	6	4	10
2 to 5 years,	12	7	19	—	1	1
5 to 10 years,	5	4	9	—	—	—
Over 10 years,	1	1	2	—	—	—
Unknown,	—	1	1	—	—	—
Totals,	42	31	73	42	31	73

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D., . . . WORCESTER.

RESIDENT MEDICAL OFFICERS.

P. CHALLIS BARTLETT, M.D., . . . *Superintendent.*

JAMES A. LYON, M.D., . . . *Assistant Superintendent and Physician.*

OLIN S. PETTINGILL, M.D., . . . *Physician.*

W. B. HOWES, M.D., . . . *Physician.*

RUDOLPH ERTISCHEK, . . . *Bacteriologist.*

SARAH CRAWFORD, . . . *Superintendent of Nurses and Dietitian.*

CHARLES E. CARROLL, . . . *Steward.*

WALTER C. BROWN, . . . *Chief Engineer.*

FREDERICK H. DRURY, . . . *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN: — The following is the report for the year ending Nov. 30, 1912: —

There were 529 patients admitted and 522 discharged during the year. The daily average number was 346, — the largest since the sanatorium opened.

Our classification shows that 30.5 per cent. of the cases admitted were incipient, 52.93 per cent. moderately advanced, 16.7 per cent. far advanced, .76 per cent. not classified and .19 per cent. nontubercular.

The average length of stay of considered discharged cases was seven months and seventeen days; average age of patients admitted, twenty-seven years, eleven months, — men, twenty-eight years, seven months, women, twenty-seven years, three months; average gain in weight of considered discharged cases, men, 11 pounds, women, 11 pounds; greatest individual gain, — man, 45 pounds, woman, 42½ pounds.

The total expenditure for the year was \$183,891.16, — an increase over last year of \$5,109.96.

It was necessary during the year to increase the salaries and wages because of the general increase everywhere.

There was also an increase in the amount of coal used over previous years because of the long cold spring.

These were the two chief reasons for the increase in the cost of maintenance.

The medical work for the past year has been along the same lines as for the past few years. We have used the artificial pneumothorax treatment in a few cases, and from the results

obtained in the short time that this treatment has been in use we feel that it will be of distinct benefit in some of the cases.

The use of tuberculins and vaccines has been continued, and there seems to be no question but that benefit is derived in a certain number of cases.

The laboratory is a great aid in our clinical work. We are always carrying on some original research in the laboratory as well as the routine sputum, urine and general bacteriological studies.

An appropriation for a new horse barn was granted by the last Legislature. The work has progressed rapidly on this barn and it will be in use early in the coming year.

The road through the sanatorium grounds has been nearly all resurfaced, and in the spring (after the frost is out of the ground) a small additional amount of work will place the road in excellent condition.

The last Legislature was asked for a special appropriation for increased fire protection. This was not granted, and we were told to do the work out of "maintenance." This work has been completed. A new hydrant has been placed near the nurses' home, additional hose and fire extinguishers purchased, and a new fire escape placed on the back of the Centre building.

Dr. H. F. Gammons resigned May 6, 1912, to enter into private practice.

Dr. J. M. Wise resigned July 31, 1912, to take the superintendency of the New Hampshire State Sanatorium.

Miss Mary E. Thrasher, matron and superintendent of nurses, resigned July 4, 1912, to take the position of matron and superintendent of nurses at the Robert Brigham Hospital.

Dr. Howes and Dr. Pettingill were appointed to fill the positions on the medical staff and Miss Sarah Crawford was appointed to fill the position left vacant by Miss Thrasher.

Mr. C. V. Murphy, bacteriologist, died Aug. 24, 1912. Mr. Rudolph Ertischek was appointed to take his place. Mr. Murphy has been of great service in building up the laboratory and in making our laboratory work a very important part of the clinical work of the institution.

I wish in closing to thank the many friends of the sanatorium

for their unfailing generosity during the year, and to express my appreciation to the officers and many of the faithful employees who aided me.

I wish also to express to the members of the Board my appreciation of their encouragement and counsel throughout the year.

Respectfully submitted,

P. CHALLIS BARTLETT.

REPORT OF THE TREASURER.

To the Trustees of Massachusetts Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1912:—

CASH ACCOUNT.			
Balance Dec. 1, 1911,	.	.	\$4,715 60
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates:—			
Private,	.	\$21,031 85	
Charitable association,	.	106 84	
Cities and towns,	.	23,347 67	
State aid,	.	458 77	
			\$44,945 13
Sales:—			
Food,	.	\$516 79	
Clothing and materials,	.	66 25	
Repairs and improvements,	.	1 50	
Miscellaneous,	.	489 89	
Farm, stable and grounds:—			
Cows and calves,	.	1,459 25	
Pigs and hogs,	.	2,153 00	
Sundries,	.	70 37	
			4,757 05
Miscellaneous receipts:—			
Interest on bank balances,	.	\$211 34	
Sundries,	.	355 42	
			566 76
			50,268 94
<i>Receipts from Treasury of Commonwealth.</i>			
Maintenance appropriations:—			
Balance of 1911,	.	\$8,162 51	
Advance money (amount on hand Novem- ber 30),	.	9,000 00	
Approved schedules of 1912,	.	\$170,312 02	
Less returned,	.	92 65	
			170,219 37
			187,381 88
Special appropriations,	.	.	6,920 45
Total,	.	.	\$249,286 87

Payments.

To Treasury of Commonwealth, institution receipts,		\$50,268 94
Maintenance appropriations: —		
Balance November schedule, 1911,	\$13,129 75	
Eleven months' schedules, 1912,	170,219 37	
November advances,	5,031 43	
	<hr/>	188,380 55
Special appropriations: —		
Approved schedules,	\$6,920 45	
Less advances, last year's report,	251 64	
	<hr/>	\$6,668 81
November advances,	8 25	
	<hr/>	6,677 06
Balance Nov. 30, 1912: —		
In bank,	\$3,510 94	
In office,	449 38	
	<hr/>	3,960 32
	<hr/>	
Total,		\$249,286 87

MAINTENANCE.

Appropriation,	\$180,000 00
Expenses (as analyzed below),	183,391 16
	<hr/>
Deficit,	\$3,391 16

Analysis of Expenses.

Salaries, wages and labor: —	
General administration,	\$42,262 38
Medical service,	3,974 70
Ward service (male),	1,641 03
Ward service (female),	7,308 98
Repairs and improvements,	2,837 98
Farm, stable and grounds,	8,119 22
	<hr/>
	\$66,144 29
Food: —	
Butter,	\$5,968 36
Butterine,	83 10
Beans,	110 60
Bread and crackers,	92 53
Cereals, rice, meal, etc.,	557 90
Cheese,	125 42
Eggs,	9,555 11
Flour,	2,038 75
Fish,	1,816 09
Fruit (dried and fresh),	2,927 97
Meats,	29,539 23
Milk,	8,791 30
Molasses and syrup,	69 87
Sugar,	2,110 32
Tea, coffee, broma and cocoa,	1,077 79
Vegetables,	4,150 32
Sundries,	567 60
	<hr/>
	69,582 26
<i>Amount carried forward,</i>	\$135,726 55

<i>Amount brought forward,</i>			\$135,726 55
Clothing and materials: —			
Boots, shoes and rubbers,	\$16 70		
Clothing,	43 99		
Hats and caps,	75		
			61 44
Furnishings: —			
Beds, bedding, table linen, etc.,	\$2,062 07		
Brushes, brooms,	245 23		
Crockery, glassware, cutlery, etc.,	642 11		
Furniture and upholstery,	347 55		
Kitchen furnishings,	173 41		
Wooden ware, buckets, pails, etc.,	48 36		
Sundries,	84 90		
			3,603 63
Heat, light and power: —			
Coal,	\$14,080 15		
Transportation of coal,	1,273 52		
Oil,	220 40		
Sundries,	150 39		
			15,724 46
Repairs and improvements: —			
Brick,	\$89 00		
Cement, lime and plaster,	35 78		
Doors, sashes, etc.,	57 09		
Electrical work and supplies,	708 08		
Hardware,	453 71		
Lumber,	337 73		
Machinery, etc.,	59 84		
Paints, oil. glass, etc.,	661 35		
Plumbing, steam fitting and supplies,	975 55		
Roofing and materials,	253 82		
Sundries,	458 63		
			4,090 58
Farm, stable and grounds: —			
Blacksmith and supplies,	\$191 65		
Carriages, wagons, etc., and repairs,	141 92		
Fertilizers, vines, seeds, etc.,	899 38		
Hay, grain, etc.,	6,181 47		
Harnesses and repairs,	87 25		
Cows,	160 00		
Other live stock,	991 30		
Tools, farm machines, etc.,	176 90		
Sundries,	2,127 49		
			10,957 36
Miscellaneous: —			
Books, periodicals, etc.,	\$99 02		
Chapel services and entertainments: church,			
\$540; entertainment, \$112.05,	652 05		
Freight, expressage and transportation,	1,164 61		
Funeral expenses,	1 00		
Hose, etc.,	217 34		
Medicines and hospital supplies,	3,254 05		
Medical attendance, nurses, etc. (extra),	37 00		
<i>Amounts carried forward,</i>	\$5,425 07	\$175,589 09	

<i>Amounts brought forward,</i>	\$5,425 07	\$175,589 09
<i>Miscellaneous — Con.</i>		
Postage,	638 14	
Printing and printing supplies,	458 85	
Cuspidor supplies,	1,211 80	
Soap and laundry supplies,	987 55	
Stationery and office supplies,	627 88	
School books and supplies,	6 92	
Travel and expenses (officials),	256 54	
Telephone and telegraph,	983 70	
Tobacco,	2 00	
Water,	2,475 10	
Sundries,	653 59	
		7,802 07
Total expenses for maintenance,		\$183,391 16

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1911,	\$5,170 55
Appropriations for fiscal year,	10,650 00
Total,	\$15,820 55
Expended during the year (see statement annexed),	\$6,920 45
Reverting to treasury of Commonwealth,	16 86
	6,937 31
Balance Nov. 30, 1912,	\$8,883 24

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$3,960 32
November cash vouchers (paid from advance money): —	
Maintenance,	\$5,031 43
Specials,	8 25
	5,039 68
Due from treasury of Commonwealth account November, 1912, schedule,	687 98
	\$9,687 98

Liabilities.

November schedule,	\$9,687 98
November deficit schedule,	3,391 16
	\$13,079 14

PER CAPITA.

During the year the average number of inmates has been 346.
 Total cost for maintenance, \$183,891.16.
 Equal to a weekly per capita cost of \$10.15.
 Receipts from sales, \$4,757.05.
 Equal to a weekly per capita of \$0.259.
 All other institution receipts, \$45,511.89.
 Equal to a weekly per capita of \$2.520.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Dynamo,	Res. 1911, chap. 105	\$2,850 00	\$2,846 25	\$2,850 00	—
Machinery,	Res. 1911, chap. 105	300 00	161 77	299 77	\$0 23 ¹
Iron pipe,	Res. 1911, chap. 105	1,975 00	369 35	1,668 31	306 69
Verandas,	Res. 1911, chap. 105	965 00	193 14	962 76	2 24 ¹
Infirmary,	Res. 1911, chap. 105	865 00	741 32	741 32	123 68
Furnishing infirmary,	Res. 1911, chap. 105	390 00	379 49	379 49	10 51 ¹
Covering bridge,	Res. 1911, chap. 105	150 00	24 00	149 42	58 ¹
Ambulance,	Res. 1911, chap. 105	450 00	8 00	446 70	3 30 ¹
Stable for horses,	Res. 1912, chap. 88	8,950 00	1,391 31	1,391 31	7,558 69
Road,	Res. 1912, chap. 88	1,400 00	756 02	756 02	643 98
Carpenter shop,	Res. 1912, chap. 88	300 00	49 80	49 80	250 20
		\$18,595 00	\$6,920 45	\$9,694 90	\$8,883 24

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

P. CHALLIS BARTLETT,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

INVENTORY.

Land.

Grounds and building sites, 12 acres, . . .	\$6,000 00	
Woodland, 88 acres,	2,816 00	
Mowing, 99 acres,	8,910 00	
Tillage, 37 acres,	3,300 00	
Pasture, 108 acres,	2,376 00	
Roads and sewerage system,	20,000 00	
Miscellaneous, 21 acres,	2,100 00	
Total,	<hr/>	\$45,502 00

Buildings.

Institution buildings,	\$443,181 00	
Farm, stable and grounds,	20,620 00	
Miscellaneous,	3,800 00	
Total,	<hr/>	467,601 00

Grand total, \$513,103 00

Present value of all personal property as per inventory

taken Dec. 1, 1912, \$45,584 76

FARM ACCOUNT.

Dr.

Products of the farm on hand, as estimated Dec.		
1, 1911,	\$2,035	00
Stock on hand, as estimated Dec. 1, 1911,	543	75
		<hr/>
		\$2,578 75

General expenses:—

Blacksmith,	\$128	90
Carriage and repairs,	84	50
Coal,	45	39
Cattle,	225	00
Fertilizer,	801	00
Harness,	38	50
Hay, grain and feed,	4,679	56
Labor,	6,014	92
Seeds, shrubbery, etc.,	110	67
Shavings,	118	19
Sundries,	83	75
Teaming (outside),	868	86
Tools and hardware,	177	18
		<hr/>
	\$13,376	42

Material, etc., produced by other departments
of sanatorium for farm department:—

Board of employees,	\$1,447	50
Painter department,	14	82
Waste, sanatorium kitchen,	200	00
		<hr/>
	1,662	32
		<hr/>
		15,038 74
		<hr/>
		\$17,617 49

Cr.

Produce of farm delivered to the sanatorium:—

Apples, 53 barrels, 2 bushels, at \$2 to \$3,	\$136	95
Beans (shell), 14 bushels, at \$1.25,	17	50
Beans (string), 12 bushels, at \$1 to \$1.25,	14	25
Beets, 24 bushels, at \$0.75,	18	00
Cabbage, 2,561 pounds, at \$0.01 to \$0.01½,	26	09
Carrots, 25 bushels, at \$0.60 to \$0.75,	16	70
Cauliflower, 42½ dozen, at \$0.75 to \$1,	37	00
Cider, 5 gallons, at \$0.20,	1	00
Corn, 885 dozen, at \$0.13,	115	05
Cucumbers (large), 244½ dozen, at \$0.25 to \$0.35, .	64	13
Cucumbers (small), 55 dozen, at \$0.18,	9	90
		<hr/>

Amount carried forward, \$456 57

<i>Amount brought forward,</i>					\$456 57	
Hay, 85 pounds, at \$0.01,	.	.	.	.	85	
Leeks, 108 bunches, at \$0.08 $\frac{1}{4}$,	.	.	.	.	8 91	
Lettuce, 204 dozen, at \$0.40 to \$0.50,	.	.	.	.	95 40	
Milk, 116,049 quarts, at \$0.04 $\frac{1}{4}$,	.	.	.	.	5,222 21	
Parsley, $\frac{1}{3}$ peck, at \$0.50,	.	.	.	.	25	
Parsnips, 22 bushels, at \$0.60 to \$0.90,	.	.	.	.	18 00	
Peppers, 2 bushels, at \$0.50,	.	.	.	.	1 00	
Pork, 2,519 pounds, at \$0.09 $\frac{1}{2}$,	.	.	.	.	139 30	
Potatoes, 341 $\frac{5}{8}$ bushels, at \$0.60,	.	.	.	.	205 10	
Radishes, 565 bunches, at \$0.06 $\frac{1}{2}$,	.	.	.	.	36 72	
Rhubarb, 485 pounds, at \$0.01 $\frac{1}{2}$,	.	.	.	.	7 28	
Spinach, 32 $\frac{1}{2}$ bushels, at \$0.50,	.	.	.	.	16 25	
Squash, 2,425 pounds, at \$0.01 to \$0.01 $\frac{1}{2}$,	.	.	.	.	30 95	
Squash (summer), 84 dozen, at \$0.30,	.	.	.	.	25 20	
Tomatoes, 94 $\frac{1}{2}$ bushels, at \$0.60 to \$1.65,	.	.	.	.	91 64	
Turnips, 23 bushels, at \$0.60 to \$0.75,	.	.	.	.	14 40	
						\$6,370 03
Sales: —						
Live stock, cows and calves,	.	.	.	.	\$1,459 25	
Pigs,	.	.	.	.	111 00	
Pork, 29,055 pounds,	.	.	.	.	2,042 00	
Sundries,	.	.	.	.	70 37	
						3,682 62
Sanatorium, board of driving and express horses, 5 at \$20, 12 months,	.	.	.	.	\$1,200 00	
Service, labor and teaming for sanatorium, putting in ice, hauling provisions, filter beds, etc.,	.	.	.	.	2,948 89	
						4,148 89
Stock: —						
Products of farm on hand, as estimated Dec. 1, 1912,					\$2,533 40	
Stock on hand, Dec. 1, 1912,	.	.	.	.	72 80	
						2,606 20
						\$16,807 74
Deficit against farm,	.	.	.	.	.	\$809 75

POULTRY DEPARTMENT.

 DR.

Stock, \$1,659 05

General expense:—

Coal,	\$22 90
Grain and feed,	1,557 51
Poultry,	919 90
Oil,	23 50
Salaries and wages,	794 74
Sundries,	273 61
Water,	5 75

Repairs and improvements:—

Cement, etc.,	16 80
Hardware,	30
Lumber,	178 99
Paint,	2 00
Roofing paper,	45 48
	<hr/> \$3,841 48

Material, etc., produced by other departments of sanatorium for poultry department:—

Board of employees,	\$229 12
Farm department (teaming),	75 50
	<hr/> 304 62
	<hr/> 4,146 10
	<hr/> \$5,805 15

CR.

Products of poultry department delivered to
sanatorium:—

Eggs, 6,827½ dozen,	\$2,050 77
Poultry, 4,088½ pounds,	629 53
Fertilizer, 213 barrels,	153 90
Fertilizer, 65 loads,	32 50
Sundries,	12 38
	<hr/>
	\$2,879 08

Stock:—

Eggs,	\$12 56
Grain and feed,	45 99
Poultry,	1,318 40
Sundries,	17 85
	<hr/>
	1,394 80
	<hr/>
	\$4,273 88

Deficit against poultry department, \$1,531 27

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference on Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	177	162	339
Number received during year,	252	277	529
Number discharged during year,	252	270	522
Number of deaths included in preceding item, . . .	26	19	45
Number at end of fiscal year,	176	169	345
Daily average attendance (<i>i.e.</i>), number of inmates actually present during year.	178	168	346
Average number of officers and employees during year, .	125.1	79.8	204.9

Expenditures.

Current expenses:—

1. Salaries and wages,	\$66,144 29	
2. Clothing,	61 44	
3. Subsistence,	69,582 26	
4. Ordinary repairs,	4,090 58	
5. Office, domestic and outdoor ex- penses,	44,012 59	
		\$183,891 16

Extraordinary expenses:—

1. Permanent improvements to existing buildings, .	2,349 77	
Grand total,		\$186,240 93

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1911, . . .	177	162	339
Number admitted Nov. 30, 1911, to Dec. 1, 1912, . .	252	277	529
Number discharged Nov. 30, 1911, to Dec. 1, 1912, . .	252	270	522
Number remaining in sanatorium Nov. 30, 1912, . . .	176	169	345
Daily average number of patients,	178	168	346
Died (included in number discharged),	26	19	45

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	153	160	313
Married,	90	100	190
Widowed,	9	16	25
Separated,	—	1	1
Totals,	252	277	529

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	1	2	3
14 to 20 years,	46	53	99
20 to 30 years,	100	129	229
30 to 40 years,	74	61	135
40 to 50 years,	23	26	49
Over 50 years,	8	6	14
Total,	252	277	529

TABLE 4. — *Nativity of Patients admitted.*

PATIENTS BORN IN —	Males.	Females.	Totals.	FATHERS BORN IN —	Males.	Females.	Totals.
United States, . . .	187	162	349	United States, . . .	-	-	-
Ireland,	20	18	38	Ireland,	77	67	144
Canada,	11	31	42	Canada,	24	40	64
Russia,	20	17	37	Russia,	26	19	45
England,	4	14	18	England,	11	23	34
Sweden,	2	5	7	Sweden,	3	9	12
Prince Edward Island, .	1	5	6	Prince Edward Island, .	3	6	9
Newfoundland, . . .	-	6	6	Newfoundland, . . .	-	7	7
Germany,	2	3	5	Germany,	8	7	15
Italy,	-	4	4	Italy,	5	4	9
Scotland,	1	3	4	Scotland,	5	7	12
Finland,	1	3	4	Finland,	1	3	4
Austria,	1	1	2	Austria,	1	1	2
Denmark,	-	2	2	Denmark,	-	3	3
Norway,	1	1	2	Norway,	1	1	2
Holland,	-	1	1	Holland,	-	1	1
Spain,	1	-	1	Spain,	1	-	1
Bulgaria,	-	1	1	Bulgaria,	-	1	1
Azores,	-	-	-	Azores,	-	1	1
Totals,	252	277	529	Totals,	166	200	366

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Amesbury,	1	-	1	Brookline,	1	4	5
Andover,	1	1	2	Brookville,	1	-	1
Arlington,	2	1	3	Belmont,	1	-	1
Athol,	1	-	1	Byfield,	1	-	1
Atlantic,	1	-	1	Blackstone,	1	3	4
Attleborough,	4	4	8	Beverly,	1	1	2
Boston,	82	118	200	Braintree,	1	-	1
Brockton,	13	6	19	Baldwinsville,	-	1	1

TABLE 5. — *Residence of Patients admitted* — Continued.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Cambridge,	11	5	16	Mansfield,	-	2	2
Chelsea,	6	5	11	Middleborough,	-	1	1
Chicopee Falls,	-	1	1	Maynard,	-	1	1
Chatham,	1	1	2	Milford,	1	1	2
Colrain,	1	-	1	Marlborough,	2	1	3
Clinton,	2	3	5	Manchaug,	-	1	1
Dennis,	-	1	1	New Bedford,	-	2	2
Danvers,	1	3	4	Newton,	2	3	5
Dodgeville,	1	-	1	Needham,	-	1	1
Dalton,	1	-	1	Norwood,	1	3	4
Everett,	6	3	9	Natick,	1	-	1
East Longmeadow,	1	-	1	Newburyport,	1	-	1
Fall River,	2	-	2	North Grafton,	1	-	1
Fitchburg,	4	5	9	Pittsfield,	3	1	4
Framingham,	5	6	11	Peabody,	1	-	1
Foxborough,	1	-	1	Plymouth,	-	1	1
Fairhaven,	-	1	1	Pepperell,	2	-	2
Gardner,	2	3	5	Quincy,	2	3	5
Gloucester,	-	2	2	Revere,	-	2	2
Granby,	1	1	2	Rutland,	9	10	19
Haverhill,	3	2	5	Rowley,	1	1	2
Holyoke,	3	3	6	Rockland,	-	1	1
Hebronville,	-	1	1	Somerville,	5	10	15
Holliston,	1	-	1	Springfield,	2	1	3
Hamilton,	-	1	1	Salem,	1	1	2
Hingham,	1	-	1	Stoughton,	1	1	2
Hanover,	1	-	1	Stoneham,	1	-	1
Holbrook,	1	1	2	Swampscott,	2	-	2
Ipswich,	-	1	1	Southbridge,	-	2	2
Lynn,	13	1	14	Sagamore,	-	1	1
Lowell,	-	4	4	Turners Falls,	-	2	2
Lawrence,	2	3	5	Taunton,	1	-	1
Leominster,	1	2	3	Worcester,	10	11	21
Malden,	10	5	15	Whitinsville,	-	1	1
Medford,	-	1	1	Watertown,	-	1	1
Milton,	1	1	2	Waltham,	-	2	2

TABLE 5. — *Residence of Patients admitted* — Concluded.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Woburn,	1	2	3	Willimansett,	1	-	1
Webster,	-	1	1	Winchester,	1	-	1
Wakefield,	1	-	1	Winthrop,	1	-	1
Weymouth,	1	-	1	Wellesley,	-	1	1
Williamstown,	1	-	1	Totals,	252	27	529

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Attendant,	2	4	6	Domestic,	-	7	7
Bookbinder,	2	-	2	Druggist,	1	-	1
Bookkeeper,	5	7	12	Draughtsman,	1	-	1
Brakeman,	1	-	1	Electrician,	4	-	4
Brass finisher,	1	-	1	Electroplater,	1	-	1
Boiler maker,	1	-	1	Elevator man,	1	-	1
Bricklayer,	1	-	1	Engineer, civil,	1	-	1
Bootblack,	1	-	1	Engineer, structural,	1	-	1
Cigar maker,	3	-	3	Engineer, mechanical,	1	-	1
Clerk,	31	11	42	Factory,	46	48	94
Collector,	1	-	1	Fisherman,	1	-	1
Conductor, street railway,	2	-	2	General work,	7	5	12
Cutter, shoe,	5	-	5	Gateman,	1	-	1
Cutter, meat,	1	-	1	Housewife,	-	100	100
Cutter, clothing,	1	-	1	Housework,	-	24	24
Cutter, stone,	2	-	2	Inspector,	3	1	4
Clergyman,	1	-	1	Iron worker,	1	-	1
Cabinet maker,	1	-	1	Janitor,	1	-	1
Canvasser,	1	1	2	Junk collector,	2	-	2
Cashier,	-	1	1	Jeweler,	4	-	4
Carpenter,	4	-	4	Laborer,	11	-	11
Chauffeur,	2	-	2	Laundry,	-	2	2
Coachman,	1	-	1	Letter carrier,	1	-	1
Dressmaker,	-	1	1	Ladies' maid,	-	2	2
Dentist,	1	-	1	Lawyer,	1	-	1

TABLE 6. — *Occupations — Concluded.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Musician,	1	—	1	Salespeople,	12	4	16
Machinist,	12	—	12	Shipper,	3	—	3
Milliner,	—	3	3	Stenographer,	2	9	11
Merchant,	5	—	5	Student,	10	17	27
Motorman,	2	—	2	Social settlement,	—	1	1
No work,	—	8	8	Steamfitter,	1	—	1
Nurse, trained,	—	2	2	Sign hanger,	1	—	1
Nurse, student,	—	1	1	Steward,	1	—	1
Nurse maid,	—	2	2	Tailor,	8	—	8
Pedler,	3	—	3	Teacher, school,	—	3	3
Printer,	4	1	5	Teacher, music,	—	1	1
Plumber,	3	—	3	Teamster,	11	—	11
Pattern maker,	1	—	1	Telephone operator,	—	6	6
Physician,	1	—	1	Telegraph operator,	1	—	1
Piano polisher,	1	—	1	Vocalist,	3	—	3
Real estate,	1	—	1	Waiter,	2	5	7
Reporter,	1	—	1	Totals,	252	277	529
Sailor,	1	—	1				

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	69	90	159	30.05
Moderately advanced,	130	150	280	52.93
Far advanced,	50	35	85	16.07
Not classified,	3	1	4	.76
Nontubercular,	—	1	1	.19
Totals,	252	277	529	—

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Disease arrested,	94	103	197
Improved,	80	89	169
Progressive,	33	34	67
Died,	25	20	45
Nontuberculous,	—	1	1
Not considered,	20	23	43
Totals,	252	270	522

TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	DURATION.	Length of Stay.	Cause of Death.
8468	6 months, . .	4 months, 16 days, .	Hæmoptysis and tuberculous pneumonia.
8562	3 years, . .	2 months, 28 days, .	Laryngeal and pulmonary tuberculosis.
8336	1½ years, . .	8 months, . .	Pulmonary tuberculosis.
7946	2 years, . .	15 months, 24 days, .	Hæmoptysis and pulmonary tuberculosis.
7330	6 months, . .	15 months, 23 days, .	Pulmonary tuberculosis.
8007	1½ years, . .	15 months, 6 days, .	Enteritis and pulmonary tuberculosis.
7999	2 years, . .	15 months, 17 days, .	Œdema and pulmonary tuberculosis.
8187	1 year, . .	12 months, 29 days, .	Œdema and pulmonary tuberculosis.
7243	2 years, . .	28 months, 26 days, .	Hæmoptysis and pulmonary tuberculosis.
8434	2 years, . .	8 months, 27 days, .	Pulmonary tuberculosis.
8396	1 year, . .	10 months, 2 days, .	Enteritis and pulmonary tuberculosis.
7854	1 year, . .	31 months, 18 days, .	Hæmoptysis and pulmonary tuberculosis.
8551	2 years, . .	6 months, 15 days, .	Tuberculous appendicitis and pulmonary tuberculosis.
7922	2½ years, . .	19 months, 7 days, .	Pulmonary tuberculosis.
8666	6 months, . .	4 months, 6 days, .	Pulmonary tuberculosis.
8237	10 months, . .	14 months, 14 days, .	Tuberculous laryngitis and pulmonary tuberculosis.
8599	2½ years, . .	6 months, 5 days, .	Pernicious anæmia.
8016	1 year, . .	30 months, 26 days, .	Hæmoptysis and pulmonary tuberculosis.
7832	14 months, . .	21 months, 21 days, .	Hæmoptysis, meningitis and pulmonary tuberculosis.
8293	3 years, . .	13 months, 16 days, .	Hæmoptysis and pulmonary tuberculosis.
7517	4 months, . .	26 months, 29 days, .	Hæmoptysis, peritonitis and pulmonary tuberculosis.
8672	3 years, . .	5 months, 19 days, .	Pulmonary tuberculosis.
8456	8 months, . .	10 months, 20 days, .	Tuberculous laryngitis, enteritis and pulmonary tuberculosis.
8426	1 year, . .	11 months, 23 days, .	Pulmonary tuberculosis.
8802	3 years, . .	2 months, 10 days, .	Pulmonary tuberculosis.

TABLE 9. — *Deaths, Duration of Disease, etc.* — Concluded.

No.	DURATION.	Length of Stay.	Cause of Death.
8193	12 years, . .	17 months, 3 days, .	Heart, chronic nephritis.
8794	1 year, . .	2 months, 21 days, .	Pneumothorax and pulmonary tuberculo- sis.
8219	3 years, . .	16 months, 23 days, .	Tuberculous pneumonia, hæmoptysis and pulmonary tuberculosis.
8528	1 year, . .	9 months, 18 days, .	Pulmonary tuberculosis.
8779	10 years, . .	3 months, 13 days, .	Pulmonary tuberculosis and hæmoptysis.
8759	8 years, . .	4 months, 15 days, .	Pulmonary tuberculosis.
8870	1 year, . .	2 months, 7 days, .	Laryngeal and pulmonary tuberculosis.
8176	1 year, . .	18 months, 14 days, .	Pulmonary tuberculosis.
7777	1½ years, . .	25 months, 1 day, .	Hæmoptysis and pulmonary tuberculosis.
8859	8 months, . .	8 months, . . .	Pulmonary tuberculosis.
9007	6 months, . .	10 days, . . .	Enteritis and pulmonary tuberculosis.
8412	7 months, . .	14 months, 29 days, .	Hæmoptysis and pulmonary tuberculosis.
8185	4 years, . .	19 months, 23 days, .	Laryngeal enteritis and pulmonary tuber- culosis.
8844	9 months, . .	4 months, 11 days, .	Hæmoptysis and pulmonary tuberculosis.
8585	6 months, . .	11 months, 21 days, .	Pulmonary tuberculosis.
8710	1½ years, . .	9 months, 9 days, .	Œdema and pulmonary tuberculosis.
8669	2 years, . .	10 months, 20 days, .	Abscess of the lung and pulmonary tuber- culosis.
9118	2 years, . .	10 days, . . .	Pulmonary tuberculosis.
8548	10 months, . .	13 months, 23 days, .	Hæmoptysis and pulmonary tuberculosis.
8024	— . . .	25 months, 2 days, .	Cardiac dilatation and pulmonary tuber- culosis.

Climatological Data, Rutland State Sanatorium, Rutland, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1911, and ending Nov. 30, 1912.

DATE.	Mean Temperature (Degrees).	Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	Precipitation (Rain).	Precipitation (Snow).	Total Wind (Miles).	Wind Average Per Hour (Miles).	Mean Relative Humidity (Per Cent.).
1911.										
December,	32.6	12	12	7	9	3.14	5.50	7,079.8	9.6	68.3
1912.										
January,	14.1	17	8	6	10	2.51	22.00	7,816.7	10.5	67.1
February,	20.6	18	7	4	3	2.37	1.00	8,191.7	11.8	60.6 ¹
March,	28.6	19	4	8	11	4.85	10.25	6,190.6	9.9	68.3
April,	43.1	18	6	6	14	4.44	1.25	8,118.2	11.3	71.7
May,	56.0	19	3	9	15	5.86	-	7,957.9	10.7	76.0
June,	62.6	25	3	2	6	.36	-	6,651.2	9.2	66.6
July,	69.8	22	7	2	7	2.74	-	6,321.0	8.5	73.6
August,	64.2	16	11	4	8	3.33	-	6,350.8	8.5	78.2
September,	59.3	13	9	8	12	2.76	-	5,333.6	7.4	85.3
October,	51.6	18	7	6	11	2.23	-	6,687.7	8.9	76.9
November,	37.5	18	4	8	6	4.32	.60	8,375.0	11.6	77.4
Totals,	540.0	215	81	70	112	38.91	40.60	85,080.2	117.9	870.0
Averages,	45.0	17 +	6 +	5 +	9 +	3.24	3.30	7,090.0	9.8	72.5

¹ Twelve days missing.

SEVENTH ANNUAL REPORT
OF THE
TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES.

NOVEMBER 30, 1913.



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TRUSTEES.

WALTER C. BAILEY, M.D., *Chairman.*

ARTHUR DRINKWATER.

SYLVIA B. KNOWLTON.

GEORGE A. DUNN.

DANIEL L. PRENDERGAST.

ALBERT C. GETCHELL, M.D.

SIMON SWIG.

JOHN B. HAWES, 2D, M.D., *Secretary.*

3 JOY STREET, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report:—

CHANGES IN THE BOARD.

In February, 1912, Governor Foss appointed Dr. Walter C. Bailey as a member of this Board in place of Dr. Arthur T. Cabot, deceased. In April, 1913, Mr. Daniel L. Prendergast, chairman of the Board subsequent to the death of the former chairman, Dr. Cabot, resigned. Dr. Walter C. Bailey was elected chairman in his place.

NORTH READING, LAKEVILLE, WESTFIELD AND RUTLAND SANATORIA.

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland sanatoria, have passed an active and successful year. At the North Reading, Lakeville and Westfield sanatoria the daily average of patients has been over 190 instead of an average of 175 last year, and an original capacity of 150.

At the North Reading and Lakeville sanatoria the construction of new wards and additions to the dining rooms, made possible by special appropriations last year, is well under way. When these are completed each of these institutions will be in a far better position than it now is to care for the very sick patients and to accommodate many others now housed in tents.

At the Westfield Sanatorium the children's ward, for which a special appropriation was made last year, is nearing completion. This building when finished will add greatly to the usefulness of this institution and will enable the State to care for a larger number of tuberculous children in a more adequate manner as regards education, segregation, etc., than ever before. The daily average of patients at the Rutland State Sanatorium has been 348.

WAITING LIST.

The waiting list for these institutions despite the increased accommodation is still a long one. At the present time there are upon this list over 200 men and women. Of these, the greater number are in the advanced stages of the disease. In the winter months it is still necessary for a man to wait at least two months and a woman about one month after filing his or her application before the name is reached upon the list.

At the Rutland State Sanatorium, which by the original vote of the trustees is reserved for the incipient and favorable cases of tuberculosis, the percentage of patients who are found to be really in the incipient class is still comparatively small, not over 30 per cent. It is unfortunate that Massachusetts physicians either do not diagnose or make application for their patients when in the incipient and curable stages. In the future in order that this sanatorium may be an institution for early cases of consumption in fact, as well as in name, the Board will be more strict not only as regards the selection of cases for this institution, but also in transferring to other sanatoria or hospitals those patients who upon admission are found to be unsuited for treatment at Rutland.

INCREASE IN THE NUMBER OF LOCAL TUBERCULOSIS HOSPITALS.

In its last report the Board announced that the following ten cities had provided themselves with local tuberculosis hospitals, which had been approved by this Board: Boston, Cambridge, New Bedford, Lynn, Springfield, Lawrence, Somerville, Holyoke, Waltham and Westfield. The Board is glad to announce that the following additional cities and towns during the past year have complied with the law and have provided themselves with such local hospitals, which have been approved by this Board:

Fitchburg, Chicopee, Haverhill, Pittsfield and Salem; and that other cities and towns, notably, Worcester, Brookline, Taunton, Clinton and Brockton, are constructing or are about to construct such hospitals. In addition to this, by special act of the Legislature last year, Hampshire County was authorized to construct a county sanatorium for the care of indigent consumptives in that district. The construction of this institution is now well under way. This will be of great benefit to the numerous small cities and towns in this county. The increase in the number of beds for consumptives in these local communities, and the arousing of public sentiment that such local hospitals are a necessary part in the general campaign against consumption, is a most favorable indication of steady progress.

SUBSIDY DEPARTMENT.

Mr. Louis N. Phaneuf, agent of the Board to carry on the work connected with the subsidy act (chapter 597, Acts of 1912, amended by chapter 613, Acts of 1912), reports that during the past year the sum of \$103,856.63 is due to those cities and towns having local tuberculosis hospitals, approved by this Board, in which indigent consumptives have been cared for; while for the year 1912, \$64,922.14 was paid out for this purpose.

In certain instances cities and towns not themselves having tuberculosis hospitals, but within easy reach of a city or town having such accommodations, have been allowed the State subsidy for their patients. This law, under the terms of which cities and towns having local tuberculosis hospitals approved by this Board are allowed \$5 per week for each patient with tubercle bacilli in the sputum, is intended to encourage the construction of local hospitals for sick and dying consumptives. The great increase in the amount to be paid out for the year 1913 for this purpose, \$103,856.63, as against \$64,922.14 in 1912, is an encouraging sign of activity in this direction.

AFTER-CARE WORK IN REGARD TO DISCHARGED PATIENTS.

Last year the Board reported that it had accepted the offer of the Boston Association for the Relief and Control of Tuberculosis to pay the salary of a trained social worker to look up patients discharged from the State sanatoria, in order to bring

about the co-operation of local agencies of various kinds to continue adequate treatment and supervision. Appropriation was granted to continue this. The Board feels that this work in looking up and keeping in touch with consumptives discharged from our State sanatoria is a most important one, and a large factor in making permanent the good results obtained at the sanatoria.

The following figures, in regard to the patients whom Miss Bernice Billings, in charge of this work, has personally investigated, show its extent:—

After-care Work from Dec. 1, 1912, to Dec. 1, 1913.

Cities and towns,	132
Number of calls,	783
Number of patients visited,	606
Number of patients discharged from Rutland,	206
Number of patients discharged from Lakeville,	123
Number of patients discharged from North Reading,	164
Number of patients discharged from Westfield,	113
1. Classification on admission:—	
Incipient,	121
Moderately advanced,	202
Advanced,	279
Not examined,	4
2. Classification on discharge:—	
Arrested,	200
Improved,	202
Unimproved,	125
Not examined,	79
3. Sputum on discharge:—	
Positive for tuberculosis,	270
4. Out of 483 patients at time of visit:—	
Good condition (34 per cent.),	167
Fair (28 per cent.),	136
Ill (26 per cent.),	125
Died (12 per cent.),	55
5. Out of 483 patients:—	
Working (50 per cent.),	244
Not working (38 per cent.),	184
Died (12 per cent.),	55
6. Out of 483 patients:—	
Patients under medical supervision (54 per cent.),	259
Patients not under medical supervision (34 per cent.),	169
Patients who have died (12 per cent.),	55

7. Out of 483 patients:—

Patients needing dentistry (34 per cent.),	163
Patients not needing dentistry (54 per cent.),	265
Patients who have died (12 per cent.),	55

8. Out of 606 patients number not seen (20 per cent.):—

Who have re-entered sanatorium,	14
In State Infirmary,	2
In local hospitals,	18
Unknown address,	2
Changed address,	31
Left State,	43
Other institutions,	13

9. Out of 483 patients:—

The following have received adequate instruction by local boards of health (37 per cent.),	179
--	-----

10. Out of 606 patients:—

Premises known to have been disinfected by boards of health (39 per cent.),	235
---	-----

In addition to this work of Miss Billings, the Board is keeping physicians, dispensaries and other local agencies in touch with their patients by notifying them of the patient's entrance to the sanatorium, his condition at this time, and whether or not this examination made in the sanatorium agrees with the diagnosis made by the physician who first examined the patient. Of yet more importance, the physician, or dispensary, as well as the local and State boards of health are notified when the patient is discharged and given information concerning his condition at this time, whether or not he has made improvement, with advice and suggestions for future treatment. Physicians are also promptly notified if, after being assigned to any sanatorium, patients do not enter the institution. This enables physicians and boards of health to look up these patients in order to find out why they did not go to the sanatorium, and, if necessary, to persuade them to go, or at least to see that they are under proper supervision at home.

As a striking example of what any city or town can do by co-operation with other forces in tuberculosis work, the following figures from the town of Gardner are of interest. In this town there is as yet no local tuberculosis hospital, but there is an excellent dispensary with competent physicians in attendance, and, of special importance, a nurse and social worker,

who visits and instructs all patients, especially those discharged from the State sanatoria. During the past four years 70 patients from Gardner have undergone sanatorium treatment. Of these, 5 have since died, 4 are not working at all, 3 are working part time, and 58, or over 82 per cent., are working full time. If these results could be duplicated all over the State, our tuberculosis problem would be far nearer solution than it now is.

It is well from time to time in attacking any great problem to survey the situation so as to judge as to progress and results of our endeavors. In an admirable address of Hiram F. Mills of the State Board of Health it is shown that in the past twenty-five years, while the population of this State has increased 67 per cent., the number of deaths from consumption has decreased from 5,897 in 1886 to 4,418 in 1911. This is still more strikingly shown by the fact that the death rate from consumption per 10,000 inhabitants was 30.7 in 1885, 19.7 in 1898, when the Rutland State Sanatorium was opened, and 12.8 in 1911. While the four State sanatoria under the control of this Board are by no means the sole, or indeed most important, factor in this decrease in deaths from tuberculosis, that they do play an important part in bringing this about cannot be doubted. As far as the results which can be directly attributed to the sanatoria are concerned, only the Rutland State Sanatorium has been in existence long enough to enable us to collect sufficient data to be of value.

Miss Gertrude L. Farmer of the social service department of the Massachusetts General Hospital, during the past year, has made a detailed study of 419 tuberculous patients who have been treated at the State sanatoria during the years from Jan. 1, 1906, to Jan. 1, 1912. The period since discharge of these patients from the sanatorium at which they were treated varied from six months to seven years.

The 419 patients were admitted to the various sanatoria, as follows:—

Rutland,	308
North Reading,	60
Lakeville,	39
Westfield,	12

Of these, 96 were not included on account of the short length of stay and for other reasons.

Of the 323 patients remaining, on admission there were:—

Incipient,	117
Moderately advanced,	147
Advanced,	59

Of these 323 patients looked up during the year 1912-13 there were living, 220, or 68.2 per cent.; dead, 103, or 31.8 per cent.

Of these 323 patients, 150, or 46.4 per cent., are well and able to work and in every way lead a normal life; 70, or 21.6 per cent., are alive, although not able to work full time, and in many cases not able to work at all; 103, or 32 per cent., are dead.

These figures, considering the large percentage of patients who were in the moderately advanced and advanced stages of the disease, are distinctly encouraging.

REGULATION OF WORK.

As mentioned in previous reports, work is regarded as a therapeutic measure and is required of such patients whom the physicians feel to be suited for it. This work consists in cleaning and caring for the wards, waiting at the tables, sweeping, cutting grass, work in the garden and on the lawns, painting, etc. The superintendents report that they are meeting with less and less opposition on the part of the patients when asked to do labor of this kind. At each of the four State sanatoria much work has thus been done by patients.

EX-PATIENTS ON THE PAY ROLL.

The Board has continued its policy of offering employment to all patients who on discharge are found to be suited for work which the sanatorium can offer. At the four sanatoria there are now over 134 patients on our pay roll as nurses, attendants, gardeners, etc. The Board feels it to be one of the most valuable functions of any sanatorium to thus provide employment for its ex-patients and to keep them under observation by this means until a cure is firmly established.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past and has steadily increased. Bulletins have been sent out every two weeks to nearly 200 newspapers in the State. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and anti-tuberculosis workers not only in Massachusetts but all over the country. The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the work. Literature in the way of reports, reprints, instructive pamphlets, pay envelope cards, etc., are kept on hand for distribution. Members of the Board and the four superintendents have given many informal talks on this subject to the patients. "The Journal of the Massachusetts State Sanatoria," a monthly paper published at the Rutland State Sanatorium, in addition to giving items of news from the four sanatoria contains numerous articles of interest and value not only to patients but to their friends and to the public at large. This paper is distributed to the patients, anti-tuberculosis associations, physicians, and to many others who have asked that their names be put upon the mailing list.

CARE OF CHILDREN.

As mentioned before in this report, the Board has found it wise to concentrate children from all over the State at the Westfield State Sanatorium. There are now over 70 children fifteen years of age or under at this institution and, with the opening of the new pavilion, the total capacity will be greatly increased.

The importance of childhood infection is coming to be recognized as a most important factor in anti-tuberculosis work, and this Board wishes to impress upon physicians and anti-tuberculosis workers throughout the State the absolute necessity of recognizing and treating tuberculous infection in children, if we are ever going to make any headway in this fight. At

present we are apt to wait until people become sick before we try to cure them. The bulk of the patients at present under treatment in our State sanatoria represent the results of infection when they were children. We therefore urge the study of infection in children and the necessity of making an early diagnosis. As an aid to physicians who are so situated that they cannot take advantage of large clinics to study this type of case, there is appended a symptom-complex which has been agreed upon by a committee of experts appointed for the purpose of establishing a standard. We wish to emphasize the fact that no one sign or symptom is sufficient for the diagnosis, but that taken together the picture is an unmistakable one. If exposure to infection is proven in the case of a child, that child should be suspected, and practically made to prove that he is not tuberculous. In other words, this problem must be solved, first, by a study of the peculiarities of the early disease in children, and second, by adequate treatment, such as open-air schools, and general medical and hygienic care, as well as by sanatoria and hospitals.

SYMPTOM-COMPLEX OF TUBERCULOSIS IN CHILDREN.

History: —

Exposure in home or elsewhere.

Exposure to infected milk.

Previous illness: —

Adenitis (gradual in onset, not the type occurring after sore throat).

Whooping cough, measles, Pott's disease, influenza, chorea.

Symptoms: —

Loss of weight or failure to constantly gain.

No appetite, listlessness, undue fatigue.

Cough (hard, dry or suppressed, occasionally like that of whooping-cough.)

Examination: —

Continued irregular temperature, — 99° and upwards.

Constantly elevated pulse, — 100° and upwards.

Pallor, enlarged glands.

Lungs: signs at apex or base of increased vocal or tactile fremitus, whispered voice, or persistence of fine rales over limited area for several weeks.

Bronchial glands: —

D'Espines sign. Intense bronchial whispered voice heard over spine below third or fourth dorsal vertebra.

Bronchial glands — *Con.*

Parvertebral dullness.

Enlarged thoracic veins.

Positive X-ray examination.

Positive tuberculin test (Von Pirquet test).

Sputum usually absent or negative.

In the above outline, chronic endocarditis and glandular enlargement after measles and syphilis should be excluded.

SANATORIUM CLASSES.

One of the most interesting developments of the work during the past year has been the attempt to create a stronger spirit of co-operation and helpfulness among the patients. This idea grew out of the appreciation of the fact that despite the earnest efforts of the superintendents to obtain such co-operation, the attitude of many of the patients was inimical not only to advice but to control of any kind; therefore, a large part of the work of the physicians was wasted, the patients did not make the improvement expected, and as a result the physician in charge lost his enthusiasm and became discouraged. It was therefore decided to try the experiment at the North Reading State Sanatorium of dividing the patients into two voluntary classes, the first, called "the sanatorium class," was composed of those who signified their intention of wishing to get well, and who not only desired to help themselves but to help other patients both in and out of the sanatorium, and to co-operate in every way with the physician in charge, or in other words, those who intended to be real interested workers in this fight. The second group, called "the hospital class," was composed of those who did not wish to make any effort in order to get well, who were uneasy under restraint, who would not subscribe to the necessary rules, and who antagonized the physicians in charge.

The results obtained have been far beyond our expectations, and lead us to believe that this scheme will undoubtedly play an important part in future State sanatorium work. Moreover, for the first time, it furnishes us with a proper criterion by which to judge the results of our work, inasmuch as those patients who have been in the "sanatorium class" have fol-

lowed the rules and regulations necessary for success, while those in the "hospital class" have used the sanatorium simply as a well-conducted boarding house. From the results obtained in the "sanatorium class," it is fair to judge of what our State sanatoria can accomplish. The success of this scheme is shown by the following figures in regard to the sanatorium and hospital classes at the North Reading State Sanatorium. At the time these figures were taken in the male ward at this institution there were 47 patients in the sanatorium class and 48 in the hospital class. In the sanatorium class 32 showed an improvement, 4 no improvement and 11 stationary. In the hospital class 10 showed an improvement, 29 not improved and 9 stationary.

A UNIFORM SYSTEM OF PURCHASING STAPLE ARTICLES OF FOOD.

During the past year the Board has purchased certain staple articles of food by joint contract for the four sanatoria under its charge. Coal, butter, cheese and other articles have been purchased in this way. The Board believes that this is in accordance with modern tendencies towards scientific buying and that this system should be carried to a still further extent. It has under consideration at the present time a further elaboration of a plan by means of which many articles of food and other supplies can be purchased by the four institutions under the close supervision and control of this Board. The Board is strongly of the opinion that eventually this plan may be enlarged so as to include that entire group of institutions now under the general supervision and control of the State Board of Charity.

DISBURSEMENTS.

Appropriation,	\$10,870 00
Salaries,	\$3,815 54
Travel and necessary expenses of trustees, office expenses, rent, printing report, etc.,	3,012. 67
Subsidy, inspection of hospitals in cities and towns,	1,678 29
Social worker,	1,343 36
	<hr/>
	\$9,849 86

The estimates for the maintenance of this office for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries,	\$7,550 00
Expenses:—	
Travel and necessary expenses of trustees, printing report, rent, office expenses, etc., expenses for carrying out the purposes of chapter 597, Acts of 1911, and for social worker, etc.,	4,770 00
	<hr/>
	\$12,320 00

NORTH READING STATE SANATORIUM.

The North Reading State Sanatorium has finished its fourth year of existence. The original capacity of 150 patients has been increased so that the average number of patients during the past year has been 179. The new buildings, including an addition to the dining room and increased number of private rooms, are now nearing completion. This will greatly increase the facilities for proper care of patients now somewhat inadequately housed in tents, etc., at this institution.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$37,271 28
Food,	29,050 00
Clothing and clothing material,	200 00
Furnishings,	2,800 00
Heat, light and power,	5,820 00
Repairs and improvements,	3,100 00
Farm, stable and grounds,	3,400 00
Miscellaneous,	5,525 00
Religious services,	1,425 00
	<hr/>
Total,	\$88,591 28

For special appropriations:—

Addition to the administration building to accommodate fire-proof vault, refrigerator and garbage room,	\$5,115 00
Erection of a small outbuilding,	800 00
Erection of a covered bin for anthracite coal,	500 00
Erection of a new 25,000-gallon cypress tank with 100-foot steel tower,	2,584 00
	<hr/>
	\$8,999 00

LAKEVILLE STATE SANATORIUM.

The Lakeville State Sanatorium has had an average of over 194 patients during the past year. The grounds have been greatly improved and made attractive with numerous trees, shrubs and flowers. The addition to the dining room and the building of 10 private rooms, for which a special appropriation was made last year, and which are now nearing completion, will be of the greatest advantage to this institution. Last year the Board asked for an appropriation for land and equipment for a dairy. This appropriation was not granted. The same need exists at the present time. Elaborate investigation made by the State Board of Charity, and expert advice from the State Board of Agriculture, as well as the long and careful consideration of the subject by the Board itself, tend to show most clearly that a dairy farm is urgently needed at the institution. The establishment of such a dairy will not only result in a better supply of milk at a reduced cost but will also go far towards protecting the institution from various milk-born epidemics to which it is liable when the milk supply is not under immediate supervision and control.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$42,220 00
Food,	38,000 00
Clothing and material,	300 00
Furnishings,	5,500 00
Heat, light and power,	7,000 00
Farm, stable and grounds,	5,500 00
Repairs and improvements,	5,500 00
Religious services,	1,250 00
Miscellaneous,	8,050 00
Total,	<u>\$113,320 00</u>

For special appropriations: —

Land and equipment for dairy: —

Land, 113 acres (with 2-tenement house and 2 barns, including land for elevated spur track),	\$7,000 00
Fifty cows,	5,000 00
Cow barn,	2,000 00
Remodeling and repairing barns,	1,300 00
Silos and milk-room equipment,	700 00
	<u>\$16,000 00</u>

Additions to administration building:—

Bakery,	\$2,000 00	
Oven and other equipment,	500 00	
Addition to refrigerator for milk and butter, and porch for nurses,	1,000 00	
		<hr/>
		\$3,500 00
Screens for new buildings,		600 00
Coal trestle,		2,500 00
Granolithic walk from street to women's ward,		600 00
Rendering and canning house,		300 00
Wagon shed with paint shop,		600 00
Sewage disposal,		1,000 00
Wagon scales, 15 ton,		500 00
		<hr/>
Total,		\$25,600 00

WESTFIELD STATE SANATORIUM.

Westfield State Sanatorium has had an average of 182 patients during the past year. As mentioned before in this report appropriation was made last year for a special building where the children at this institution can be adequately housed, taught and fed. In addition to this, a new power house is being built.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$48,000
Food,	37,000
Clothing,	600
Furnishings,	6,000
Heat, light and power,	8,500
Repairs and improvements,	8,000
Farm, stable and grounds,	9,500
Miscellaneous,	8,200
Religious services,	1,200
	<hr/>
Total,	\$127,000

For special appropriations:—

Coal trestle, concrete floor and retaining wall,	\$3,926 43
Grading, concrete walks and street lighting,	2,500 00
Fireproof vault,	1,500 00
	<hr/>
	\$7,926 43

RUTLAND STATE SANATORIUM.

Dr. P. Challis Bartlett, the superintendent of the Rutland State Sanatorium since June, 1910, handed in his resignation on Sept. 29, 1913. Dr. Bartlett has served the sanatorium and the State faithfully and well. The Board wishes him success in his new work and regrets that his health would not permit him to continue his arduous labors at this institution. Dr. Elliott Washburn of Taunton, formerly State inspector of health, was appointed Sept. 29, 1913, to succeed Dr. Bartlett as superintendent of the Rutland State Sanatorium. The sanatorium has been kept full during the past year with an average of 348 patients.

The estimates for the following, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$67,500 00
Food,	77,000 00
Clothing,	100 00
Heat, light and power,	14,000 00
Repairs and improvements,	14,000 00
Furnishings,	9,900 00
Farm, stable and grounds,	8,000 00
Church,	1,500 00
Miscellaneous,	13,000 00
Total,	\$205,000 00

For special appropriations:—

Watchmen's electric clock system,	\$480 00
Removing old barn,	600 00
New poultry houses,	1,000 00
Water supply,	35,000 00
Total,	\$37,080 00

Respectfully submitted,

WALTER C. BAILEY, M.D.

ARTHUR DRINKWATER.

GEORGE A. DUNN.

ALBERT C. GETCHELL, M.D.

SYLVIA B. KNOWLTON.

DANIEL L. PRENDERGAST.

SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MacCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
NEWELL B. BURNS, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
HARRY S. NEWHART, M.D.,	.	.	.	.	<i>Physician.</i>

SUSAN R. HAYNES,	.	.	.	.	<i>Treasurer.</i>
JENNIE H. SANFORD,	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	<i>Supervisor.</i>
EDWARD W. PERRY,	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, 3 Joy Street, Boston.

LADIES AND GENTLEMEN:— I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1913.

The records show that during the year 501 patients have been treated and 323 have been admitted. The lowest daily census was 171, and the highest 185. The daily average number of patients was 178.56, which is 5.44 per cent. more than that of the preceding year.

There have been admitted during the year 14, or 4.33 per cent., incipient, 62, or 19.20 per cent. moderately advanced, and 247, or 76.47 per cent. advanced cases. There has been a daily average of 64.15 bed cases, approximately 35 per cent. of the daily population.

Of the 323 cases admitted, 258, or 79.84 per cent., were inside workers, and 216 were admitted from cities and towns having a population of 25,000 or more.

The average duration of residence in the sanatorium was two hundred and three days as opposed to one hundred and seventy-one days for the preceding year; the longest residence of any one person was thirteen hundred and seventy-one days, and the shortest, one day.

Of the patients discharged during the year, 148 have gained in weight, the total gain being 1,671 pounds and the average gain 11.29 pounds; 6 patients have remained stationary, 53 have lost, 35 were not considered (duration in the sanatorium being less than one week), and 77 have died. Thirteen patients have been discharged "arrested," 25 "apparently arrested," 46 "quiescent," 79 were "improved," 44 were "progressive," 77 have died, 35 were "not considered" (duration of stay being

less than one month), and 1 was not tuberculous. The average age was 32.32 years. One hundred and forty-six were foreign born (45 per cent.) and 98 were American born but of foreign parentage.

The total cost for maintenance for the year ending Nov. 30, 1913, was \$82,457.55; deducting \$479.07, collected from miscellaneous sources, leaves a net amount expended for maintenance of \$81,978.48. The average per capita cost per week is \$8.80. There has been collected from private patients, \$3,924.80, and from cities and towns, \$17,361.98. Further details will be found in succeeding pages of this report.

Sixty-two cases have been supported from private funds, 282 cases by cities and towns, 157 cases entirely by the State, and 5 private cases have later become either town or State charges. There were remaining November 30, 17 private cases, 99 city or town cases, 25 State cases and 40 unknown cases.

Although a decrease in the daily average number of bed cases for the past year is shown here, we find, on more careful study of our records, that we were drawing a too strict classification on the bed case. Literally this term has heretofore applied to the helpless patient in the ward, but, as a matter of fact, it should include that class of semi-bed patient which really requires much care and attendance.

MODE OF TREATMENT.

1. *Inhalation*. — An inhalation apparatus has been used in selected cases during the past six months. The wet case has seemed to have derived relief from the treatment. Those cases complicated by a catarrhal condition of the nasopharynx, however, have obtained the greatest relief. It is undoubtedly a fact that in the application of this treatment the psychic effect is considerable; due, perhaps, to the fact that the patient believes that specific treatment is being applied in an energetic fashion.

2. *Artificial Pneumothorax*. — Thirteen cases have been operated upon to create a therapeutic pneumothorax. Two in number of this series obtained an apparent improvement. On the other hand complications of a serious nature arose in the majority of patients treated, in fact, to such an extent as to

discourage us in attempting its further use until patients more adaptable to this form of treatment could be found.

3. *Throat Treatment.* — Since the opening of the sanatorium, throat treatment has received careful consideration. During the past six months our study of this distressing complication has been much enlightened by further instruction in this special branch of the disease. Our experience teaches us that in the case of laryngeal involvement the state of affairs in the throat is intimately associated with the general bodily condition. The subsidence or progress of the pulmonary disease effects the throat complication accordingly. We have found topical treatment of great benefit in a multitude of cases. The more radical treatment of this complication, we believe, has no place as a routine measure in treating the advanced consumptive.

4. *Chemical.* — We have recently adopted a method of treatment approved by certain foreign authorities, namely, "intensive nascent iodine administration." The results from our early observations are not conclusive, but we expect to report in detail later.

DIET.

The matter of diet has received careful study, and important results were obtained by carrying out the facts learned. Many patients afflicted with pulmonary tuberculosis experience their worst discomfort from functional disorders of the alimentary tract. In such cases it may seem most advisable, at times, to give the vitiated digestive processes all the rest possible. Accordingly, the attacks of anorexia and indigestion are met by the very lightest diet, together with absolute rest on the part of the patient. This is, perhaps, one of the most valuable facts learned from our observation of many cases. The old tradition of stuffing, regardless of the state of digestion, still persists in the minds of many patients and laymen. It, therefore, requires much effort in explanation of the true status of affairs. The adequate capacity of the patient's digestive power should be strongly considered in the care of feeding, and a due surplus reserve always allowed for below the line at which tolerance and intolerance meet.

It is far better for a patient to eat regularly and well three times daily, than to eat in a dribbling fashion between meals.

In this respect much needs be done to dissuade some patients from eating, for instance, fruit, at other times than meal hours. The indiscriminate eating of fruit often appears positively inimical to the patient's appetite and digestion, and in the great majority of cases should be taken only as a dessert and upon the physician's advice.

REST.

As a panacea for the symptoms of disease activity, we find nothing comparable with absolute rest in bed. Although this simple therapeutic measure is always at hand, the greatest reluctance is met in having our patients avail themselves of this remedy, and oftentimes a patient will resort to subterfuge in order to enjoy greater freedom and activity. In convalescence properly regulated, exercise has its place, but it is quite necessary that the patient should carry out his prescribed exercise subject to the physician's judgment.

For further detail in this subject see papers on "A Method of recording Exercise Data in a Sanatorium for Consumptives," Boston Medical and Surgical Journal, vol. CLXVI., No. 19; also "The Respective Significance of Rest and Exercise," in the same number of the Boston Medical and Surgical Journal.

THE MATTER OF CO-OPERATION.

As a result of the lack of co-operation and unwillingness on the part of many of our patients to assume their share of the responsibility in the application and carrying out of prescribed treatment, it was suggested that we form the patients into two classes, one to be known as the "sanatorium," or co-operative class, the other the "hospital," or non-co-operative class. This system has been in use since May, 1913, and up to the present time has worked remarkably well. On admission the patient is told how he may obtain the maximum amount of benefit from the treatment during his residence as a patient at the sanatorium. He is not urged to select the sanatorium class, but is merely given the opportunity. It is explained to him that only through co-operation with his physician and with strict compliance with the rules, and close observance

to the prescribed schedule for all sanatorium class patients, can he expect to obtain improvement.

The "hospital class" comprises the indifferent element in the sanatorium. These patients are given the accommodations of a first-class boarding house, but no attempt is made to force them to follow the treatment, simply because they have selected a course of non-co-operation.

The following schedule is prescribed for all sanatorium class patients. Any variation from this schedule must meet with physicians' approval:—

1. Arise 6 to 7 A.M. Baths as advised. No exercise before breakfast unless otherwise ordered.
2. Breakfast 7.30 to 8. Patient to remain in dining room between 7.30 and 8.
3. Rest in chair 8.15 to 8.45.
4. Bed making and assigned duties 8.45 to 9.45.
5. Rest in chair until physician's call is made, with exception of time for morning lunch.
6. From 10.30 to 11.30 walks in squads, sewing, reading, correspondence, according to individual needs.
7. From 11.30 to 12 chair.
8. From 12 to 12.30 P.M. dinner; patient to remain in dining room for one-half hour.
9. 12.45 to 2 rest on bed.
10. 2 to 3 rest in chair, reading, writing, and other quiet sedentary occupations.
11. 3 lunch if desired.
12. 3 to 4 walks or amusements as directed.
13. 4 physician's call.
14. 4 to 5 recreation.
15. 5 to 5.30 rest in chair.
16. 5.30 to 6 supper.
17. 6 to 6.30 rest in chair.
18. 6.30 to 9 recreation.
19. 9 bed.

The results of a careful examination of our case histories on Nov. 29, 1913, are arranged below in tabular form:—

	MALE.		FEMALE.	
	Sanatorium Class.	Hospital Class.	Sanatorium Class.	Hospital Class.
Improved,	35 or 73%	10 or 22%	53 or 69%	—
Stationary,	8 or 17%	24 or 52%	12 or 16%	5 or 50%
Retrogressive,	5 or 10%	12 or 26%	11 or 15%	5 or 50%
Total,	48	46	76	10

The question may arise that it is easier for a patient improving to comply cheerfully with the regulations of the sanatorium class, while a retrogressive patient would probably drift into the hospital class. That is, enthusiasm on the one hand, and discouragement on the other, would be represented respectively in the sanatorium and hospital class figures. As a matter of fact, many hospital class patients automatically placed themselves therein when they were making a decided improvement.

WORK PERFORMED.

Patients, other than those restricted by physician's advice, are required to make their own beds, assist in the general housekeeping on the wards, and to help in securing the tidiness of the premises. In addition to this, during the past year all the window screens, doors, and beds in the institution have been painted by the male patients, and the female patients, in addition to handling all our mending, have made up the following goods: 57 brooder covers, 24 bathroom curtains, 122 pillow covers to be used in chairs, 73 tablecloths, 520 hand towels, 571 pillow cases, 545 sheets, 49 kitchen towels.

LABORATORY REPORT.

During the year 1913, 970 specimens of sputum were examined, 660 urine analyses were made, and about 265 routine blood examinations performed. Patients producing specimens of sputum negative under microscopic examinations provided the greater number of continued sputum analyses, negative cases being examined weekly for the presence of tubercle bacilli in

sputum. When sputum is apparently negative microscopically for tubercle bacilli in a given individual, a guinea pig is inoculated. About thirty pigs were so treated and positive diagnosis established in ten cases by means of recovering the bacillus from the animal at autopsy.

Our laboratory work is carried on in close relation with the clinical work on the wards and is, therefore, of material assistance to patient and physician alike.

Papers published by the sanatorium staff, other than those referred to in the foregoing, are as follows: "Rôle of Family Clusters in the Prevalence of Tuberculosis," Boston Medical and Surgical Journal, vol. CLXIX., No. 7; "Moderation," in the Journal of the Outdoor Life, June, 1913; "The Seasonal Variation of the Symptomatology of Plumonary Tuberculosis," Boston Medical and Surgical Journal, March 20, 1913; "Lots of Water," Journal of the Outdoor Life, May, 1912.

Two additional papers, one relating to the treatment of hemorrhages, and another concerning the existence of heart disease in a clinic of tuberculous patients, have been prepared this fall, and accepted for publication.

A further graphic study of the relation between symptomatology of tuberculosis and climatic and meteorological phenomena of this locality is about concluded, and we hope will merit consideration as a further contribution to the study of pulmonary tuberculosis.

RELIGIOUS SERVICES.

During the year arrangements were made to conduct weekly services for our patients in addition to work already being done. Rabbi Jurman was appointed to preside over the Jewish services. Rev. Mr. Goddard succeeded the Rev. F. A. Junkins, who accepted a call in another locality.

IMPROVEMENTS.

A concrete walk leading from the administration building to the main entrance to the grounds, a distance of about 1,400 lineal feet has been built. A macadam surface has been laid on the drive leading through the institution grounds. An old shed near the farmhouse has been repaired, and is now being

used for the storage of flour and sugar. A small brooder house has been built of the lumber discarded from the concrete forms in the construction of the new buildings. A large concrete coal bunker has been built adjoining the power house. One wing on pavilion A, east and west, has been closed in and steam heat installed; this was found necessary to better provide for the semi-bed case during the cold winter months. Alterations have been made in the storeroom of the administration building, and about 2 acres of brush land cleared. The appearance of the grounds has been improved by extensive grading, and the planting of new trees.

Work on the new pavilion and dining-room extension, for which special appropriations were made by the Legislature in 1913, are nearly completed. The foundations for these buildings were put in by our regular employees at a saving of several hundred dollars to the Commonwealth.

RECOMMENDATIONS.

The Commissioner of Public Records has condemned our present vault, and has demanded that a fireproof vault be provided in accordance with chapter 35, section 18, of the Revised Laws. We find that it is impossible to reconstruct the present vault. We have outgrown our present ice boxes and are in need of more refrigerating space. We have been compelled to keep our rubbish barrels, garbage cans and milk cans in full view of the public. It is highly desirable that this space be closed in. Plans have been drawn for the addition to the present administration building to meet these requirements. I would recommend that the sum of \$5,115 be appropriated for this purpose.

Since the opening of the institution an old dilapidated ice house has been used for the storage of ice, farm implements, empty barrels, boxes, etc. This building is in a too dilapidated condition for repair, although there is about 1,000 feet of boarding on the inside of the building that could be used to good advantage in constructing a new building. It has been our custom to save all our old barrels, butter tubs and boxes, the sale of which in 1912 amounted to \$52.24, and in 1913 amounted to \$66.31. It is necessary to have some space for the

storage of these articles, as well as for our farm implements. I would recommend that the sum of \$800 be appropriated for the erection of a new building.

Owing to the lack of proper storage facilities, we have been obliged to dump our anthracite coal upon the ground. This has proved to be a wasteful and unsatisfactory method. I would recommend that the sum of \$500 be appropriated for the erection of a covered bin in which to store a year's supply of hard coal.

Since the opening of the sanatorium in 1909, we have had to contend with numerous forest fires. During the past summer we had several fires, one of which was so severe that at one time the institution was greatly endangered; so much so, that we were obliged to wet down the roofs of our buildings, and we also had to call upon the towns of North Reading and Wilmington for aid in protecting our property. At the time the fire broke out, our tank was over half full of water, giving a pressure of only 29 pounds per square inch. In spite of this fact, we did not have sufficient pressure to throw over the roofs of our hospital buildings, which are at least one-third lower than the administration building. Owing to the danger from frequent forest fires, due to close proximity to the railroad, I would suggest that a 25,000-gallon tank be erected of a height of 100 feet from pier to base. A tank at this elevation will give us a minimum pressure of 43 pounds per square inch, a sufficient force to throw over our highest building. I would recommend that the sum of \$2,584 be appropriated for the erection of a new tank.

The sum of \$88,591.28 will be needed for the maintenance of the sanatorium for the ensuing year.

ACKNOWLEDGMENTS.

I desire to acknowledge our obligations to the Rev. Father Walsh, Rev. Mr. Junkins, the Rev. Mr. Goddard, Rabbi Jurman, the Rev. Mr. Palmer and the Rev. Mr. Cogan for their faithful and untiring services to our patients, and their willing response to all the calls made upon them.

During the year many gifts of books, periodicals and magazines have been presented to the sanatorium, for which I am

very grateful. We are especially indebted to the Winchester branch of the Needlework Guild of America for their kindness in giving our patients magazines and garments; also, to the Sunshine Circle of the Congregational Church of Reading, for papers and flowers.

Whatever success we have attained during the year has been, in a large measure, due to the loyal support of all the officers and employees with whom I have worked.

I wish to take this opportunity to thank the members of the Board of Trustees for their unfailing courtesy and advice throughout the past year.

Respectfully submitted,

CARL C. MACCORISON,

Superintendent.

REPORT OF THE TREASURER.

To the Trustees of the North Reading State Sanatorium.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1913:—

CASH ACCOUNT.

Balance Dec. 1, 1912,	\$938 73
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*Receipts.**Institution Receipts.*

Board of inmates:—

Private,	\$3,924 80
Cities and towns,	17,361 98

\$21,286 78

Sales:—

Food,	\$11 13
Clothing and materials,	36 47
Furnishings,	22 35
Miscellaneous,	347 72

Farm, stable and grounds:—

Pigs and hogs,	\$20 00
Rabbits,	10 45
Fruit,	5 40
Vegetables,	1 85
Sundries,	23 70

61 40

479 07

Miscellaneous receipts:—

Interest on bank balances,	\$109 64
Sundries,	42 65

152 29

21,918 14

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1912,	\$2,696 58
Advance money (amount on hand November 30),	6,000 00
Approved schedules of 1913,	71,523 44

80,220 02

Special appropriations,

7,818 97

Total,	\$110,895 86
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Payments.

To treasury of Commonwealth, institution receipts,		\$21,918 14
Maintenance appropriations: —		
Balance November schedule, 1912,	\$3,635 31	
Eleven months schedules, 1913,	71,523 44	
November advances,	5,549 73	
	<hr/>	80,708 48
Special appropriations: —		
Approved schedules,		7,818 97
Balance Nov. 30, 1913: —		
In bank,	\$418 81	
In office,	31 46	
	<hr/>	450 27
Total,		\$110,895 86

MAINTENANCE.

Appropriation,	\$82,865 00
Expenses (as analyzed below),	82,457 55
	<hr/>
Balance reverting to treasury of Commonwealth,	\$407 45

Analysis of Expenses.

Salaries, wages and labor: —	
Carl C. MacCorison, M.D., superintendent,	\$2,500 00
General administration,	14,673 34
Medical service,	2,340 28
Ward service (male),	1,573 41
Ward service (female),	5,213 65
Repairs and improvements,	1,961 19
Farm, stable and grounds,	5,159 56
	<hr/>
	\$33,421 43
Food: —	
Butter,	\$3,021 31
Butterine,	344 46
Beans,	73 01
Bread and crackers,	68 80
Cereals, rice, meal, etc.,	220 88
Cheese,	67 70
Eggs,	1,786 88
Flour,	963 33
Fish,	759 00
Fruit (dried and fresh),	1,583 81
Lard,	110 54
Meats,	8,192 81
Milk,	6,424 52
Molasses and syrup,	26 72
Spices, seasonings, salt, etc.,	59 75
Sugar,	720 46
Tea, coffee, broma and cocoa,	481 55
Vegetables,	1,345 97
Yeast,	67 20
Sundries,	906 97
	<hr/>
	27,225 67
Amount carried forward,	\$60,647 10

<i>Amount brought forward,</i>			\$60,647 10
Clothing and materials: —			
Boots, shoes and rubbers,		\$48 30	
Clothing,		137 39	
Dry goods for clothing and small wares,		34 71	
Hats and caps,		3 00	
			223 40
Furnishings: —			
Beds, bedding, table linen, etc.,		\$1,200 95	
Brushes, brooms,		90 31	
Carpets, rugs, etc.,		138 72	
Crockery, glassware, cutlery, etc.,		449 09	
Furniture and upholstery,		484 18	
Kitchen furnishings,		9 30	
Wooden ware, buckets, pails, etc.,		240 49	
Sundries,		286 01	
			2,899 05
Heat, light and power: — °			
Coal,		\$4,339 59	
Freight on coal,		536 84	
Oil,		91 95	
Sundries,		41 05	
			5,009 43
Repairs and improvements: —			
Cement, lime and plaster,		\$333 04	
Doors, sashes, etc.,		72 00	
Electrical work and supplies,		230 13	
Hardware,		281 79	
Lumber,		871 48	
Paints, oil, glass, etc.,		272 82	
Plumbing, steam fitting and supplies,		775 38	
Roofing and materials,		19 00	
Sundries,		1,314 53	
			4,170 17
Farm, stable and grounds: —			
Blacksmith and supplies,		\$119 17	
Carriages, wagons, etc., and repairs,		258 24	
Fertilizers, vines, seeds, etc.,		558 51	
Hay, grain, etc.,		973 33	
Harnesses and repairs,		56 40	
Other live stock,		183 50	
Tools, farm machines, etc.,		272 61	
Sundries,		863 51	
			3,285 27
Religious services,			1,006 54
Miscellaneous: —			
Books, periodicals, etc.,		\$43 72	
Cuspidor supplies,		470 40	
Entertainments,		94 38	
Freight, expressage and transportation,		540 65	
Funeral expenses,		15 00	
Medicines and hospital supplies,		1,847 72	
Medical attendance, nurses, etc. (extra),		15 00	
<i>Amounts carried forward,</i>		\$3,026 87	\$77,240 96

<i>Amounts brought forward,</i>	\$3,026 87	\$77,240 96
Miscellaneous — <i>Con.</i>		
Postage,	117 30	
Printing and printing supplies,	323 66	
Soap and laundry supplies,	435 08	
Stationery and office supplies,	205 88	
School books and school supplies,	1 68	
Travel and expenses (officials),	272 15	
Telephone and telegraph,	343 48	
Tobacco,	1 10	
Sundries,	489 39	
		5,216 59
Total expenses for maintenance,		\$82,457 55

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1912,	\$1,233 70
Appropriations for fiscal year,	14,624 15
Total,	\$15,857 85
Expended during the year (see statement annexed),	7,818 97
Balance Nov. 30, 1913,	\$8,038 88

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$450 27
November cash vouchers (paid from advance money), account of maintenance,	5,549 73
Due from treasury of Commonwealth, account of November, 1913, schedule,	4,934 11
	\$10,934 11

Liabilities.

Schedule of November bills,	\$10,934 11
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PER CAPITA.

During the year the average number of inmates has been 178.569.

Total cost for maintenance, \$82,457.55.

Equal to a weekly per capita cost of \$8.855.

Receipt from sales, \$479.07.

Equal to a weekly per capita of \$0.051.

All other institution receipts, \$21,439.07.

Equal to a weekly per capita of \$2.30.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Land, spur tracks, etc.,	Acts 1910, chap. 114	\$1,000 00	—	\$52 40	\$947 60
Sewerage purification,	Acts 1911, chap. 99	3,500 00	\$482 32	3,696 22	—
Sewerage purification, additional allowance,	— ¹	196 22		2,605 92	3,618 70
Pavilion,	Acts 1913, chap. 133	6,224 62	2,605 92	3,287 15	3,416 16
Dining-room alterations,	Acts 1913, chap. 133	6,703 31	3,287 15	1,443 58	56 42
Drainage of grounds, road repairs, etc.,	Acts 1913, chap. 133	1,500 00	1,443 58		
		\$19,124 15	\$7,818 97	\$11,085 27	\$8,038 88

¹ Indemnity for nonfulfilment of contract.

Respectfully submitted,

SUSAN R. HAYNES,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,
Assistant Supervisor of Accounts.

VALUATION.

Real estate:—

Land, number of acres, 101,	\$4,720 66	
Buildings,	84,944 13	
Power plant, laundry, machinery, heating, water and sewerage systems and im- provements,	27,159 93	
		<hr/> \$116,824 72

Personal estate:—

Food,	\$2,766 52	
Clothing,	224 17	
Furnishings,	19,048 30	
Heat, light and power,	3,549 23	
Repairs and improvements,	1,976 81	
Farm, stable and grounds,	6,295 05	
Miscellaneous,	6,315 05	
		<hr/> 39,377 80

Total,	\$156,202 52
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PRODUCTS OF THE FARM AND GARDENS.

Apples, 12 bushels,	\$11 00
Beans, dry, 3 barrels,	20 25
Beans, string, 27 bushels,	26 80
Beans, shell, 5 bushels,	6 25
Beets, 26 bushels,	25 95
Cabbage, 24 barrels,	26 00
Carrots, 90 $\frac{1}{4}$ bushels,	78 04
Chard, 5 $\frac{1}{2}$ bushels,	3 63
Chickens, roasting, 247 pounds,	61 61
Corn, 152 bushels,	85 10
Cucumbers, 749,	15 42
Cucumbers, pickles, 1,542,	15 42
Eggs, 2,029 $\frac{1}{4}$ dozen,	629 04
Fowl, 265 pounds,	180 19
Hay, meadow, 3 tons.	36 00
Hay, 1 ton,	23 00
Lettuce, 7 bushels,	3 75
Manure, 3 tons,	21 00
Watermelons, 110,	11 00
Onions, 24 bushels,	36 00
Peas, 24 $\frac{1}{2}$ bushels,	62 22
Pork, 1,753 pounds,	227 89
Potatoes, 830 bushels,	630 45
Pumpkins, 6 barrels,	15 00
Radishes, 28 dozen,	1 40
Spinach, 60 bushels,	37 77
Squash, 18 barrels,	54 00
Strawberries, 1,806 boxes,	225 75
Tomatoes, 17 $\frac{1}{2}$ bushels,	18 50
Turnips, 25 bushels,	23 86
Total,	\$2,612 29

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	93	85	178
Number received during the year,	178	145	323
Number discharged or died during the year,	176	144	320
Number at end of the fiscal year,	95	86	181
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	93.94	84.62	178.56
Average number of officers and employees during the year,	39.33	30.23	69.56

Expenditures.

Current expenses:—

1. Salaries and wages,	\$33,421 43	
2. Clothing,	223 40	
3. Subsistence,	32,235 10	
4. Ordinary repairs,	4,170 17	
5. Office, domestic and outdoor expenses, .	12,407 45	
		\$82,457 55

Extraordinary expenses:—

1. Sewerage purification,	\$482 32	
2. Pavilion,	2,605 92	
3. Dining-room alterations,	3,287 15	
4. Drainage of grounds, road repairs, etc.,.	1,443 58	
		7,818 97

Total, \$90,276 52

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1912,	93	85	178
Number of patients admitted Dec. 1, 1912, to Nov. 30, 1913, inclusive.	178	145	323
Number discharged Dec. 1, 1912, to Nov. 30, 1913, inclusive,	176	144	320
Number deaths (included in preceding item),	47	30	77
Number remaining in sanatorium Nov. 30, 1913,	95	86	181
Daily average number of patients,	93.94	84.62	178.56

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	86	73	159
Single,	82	64	146
Widowed,	7	7	14
Divorced,	3	1	4
Totals,	178	145	323

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	10	19	29
20 to 30 years,	60	68	128
30 to 40 years,	52	36	88
40 to 50 years,	36	15	51
Over 50 years,	20	7	27
Totals,	178	145	323

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	89	26	30	57	17	13	146	43	43
Other New England States, . . .	5	10	12	10	16	10	15	26	22
Other States,	8	5	4	8	5	5	16	10	9
Total native,	102	41	46	75	38	28	177	79	74
Other countries: —									
Austria,	1	2	2	3	3	3	4	5	5
Canada,	15	18	21	27	24	35	42	42	56
England,	2	10	4	3	11	9	5	21	13
Finland,	2	3	3	—	—	—	2	3	3
France,	1	1	1	—	—	—	1	1	1
Germany,	1	3	2	1	3	3	2	6	5
Greece,	—	—	—	1	1	1	1	1	1
Ireland,	18	53	56	13	33	33	31	96	85
Italy,	2	4	4	2	3	3	4	7	7
Newfoundland,	3	4	4	—	—	—	3	4	4
Norway,	2	3	3	—	1	—	2	4	3
Poland,	—	1	1	—	—	—	—	1	1
Portugal,	—	—	—	—	2	2	—	2	2
Russia,	22	21	21	10	12	11	32	33	32
Scotland,	1	2	1	1	2	3	2	4	4
Sweden,	2	4	2	7	9	9	9	13	11
Syria,	1	1	1	1	1	1	2	2	2
Turkey,	3	3	3	1	1	2	4	4	5
Total foreign,	76	133	129	70	106	115	146	239	244
Unknown,	—	4	3	—	1	2	—	5	5
Totals,	178	178	178	145	145	145	323	323	323

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Adams,	1	Methuen,	1
Avon,	1	Middleborough,	1
Amesbury,	3	Newbury,	1
Andover,	4	Newburyport,	1
Arlington,	1	New Bedford,	1
Beverly,	3	North Andover,	1
Boston,	91	Northfield,	1
Brockton,	2	Newton,	3
Cambridge,	3	Norwood,	1
Chelmsford,	1	Peabody,	4
Chelsea,	14	Reading,	1
Concord,	3	Revere,	8
Danvers,	1	Rockland,	1
Everett,	11	Rockport,	1
Fitchburg,	1	Rutland,	1
Gardner,	5	Salem,	5
Gloucester,	8	Saugus,	1
Groveland,	1	Somerville,	8
Hamilton,	1	Springfield,	4
Haverhill,	16	Swampscott,	1
Holliston,	1	Taunton,	1
Hudson,	1	Watertown,	1
Lawrence,	4	Waverley,	1
Leominster,	2	Westborough,	1
Lowell,	18	Westford,	1
Lynn,	12	Winthrop,	1
Malden,	26	Winchendon,	1
Manchester,	29	Winchester,	2
Marblehead,	2	Woburn,	3
Maynard,	2	Worcester,	8
Medford,	11	Total,	323
Melrose,	6		

TABLE 6. — *Occupation of Cases admitted.*

	Males.	Females.		Males.	Females.
Actor,	2	1	Milkman,	1	—
Barber,	4	—	Mill operative,	2	13
Baker,	2	—	Miscellaneous,	4	—
Blacksmith,	5	—	Painter,	7	—
Bookbinder,	1	2	Paper hanger,	1	—
Carpenter,	5	—	Peddler,	3	—
Chairmaker,	1	—	Porter,	1	—
Clerk,	14	13	Printer,	1	1
Chemist,	1	—	Piano worker,	1	—
Chocolate dipper,	—	1	Railroad employee,	3	—
Cigar maker,	1	—	Rubber worker,	2	—
Coachman,	2	—	Seaman,	3	—
Domestic,	2	25	Shoemaker,	14	5
Dressmaker,	—	6	Student,	1	—
Dyer,	2	—	Street railroad employee,	5	—
Engineer,	2	—	Stone cutter,	1	—
Fireman,	1	—	Steward,	1	—
Furrier, ¹	3	—	Tailor,	4	—
Gardener,	3	—	Tinsmith,	1	—
Hatter,	3	—	Teacher,	1	—
Hostler,	2	—	Teamster,	10	—
Housewife,	—	72	Upholsterer,	1	—
Janitor,	2	—	Waiter,	3	2
Laborer,	15	—	Watchmaker,	1	—
Laundryman,	2	—	Watchman,	1	—
Laundress,	—	1	Weaver,	2	2
Machinist,	10	—	Wireworker,	1	—
Leather worker,	3	1	Woodworker,	2	—
Mechanic,	12	—	Totals,	178	145

¹ Same patient admitted twice.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	4	10	14
Moderately advanced,	32	30	62
Advanced,	142	105	247
Totals,	178	145	323

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	6	7	13
Apparently arrested,	12	13	25
Quiescent,	22	24	46
Improved,	45	34	79
Progressive,	26	18	44
Died,	47	30	77
Not considered (duration of stay less than one month),	18	17	35
Nontuberculous,	—	1	1
Totals,	176	144	320

TABLE 9. — *Deaths.*

DURATION OF DISEASE.	Males.	Females.	Totals.	LENGTH OF RESIDENCE IN SANATORIUM.		
				Males.	Females.	Totals.
Under 1 month,	—	—	—	9	1	10
1 to 2 months,	—	—	—	5	5	6
2 to 3 months,	—	—	—	11	5	16
3 to 4 months,	—	—	—	5	2	7
4 to 5 months,	—	—	—	2	4	6
5 to 6 months,	—	—	—	3	—	3
6 to 7 months,	1	1	2	3	3	6
7 to 8 months,	2	1	3	2	2	4
8 to 9 months,	2	1	3	—	2	2
9 to 10 months,	—	—	—	—	1	1
10 to 12 months,	6	—	6	1	2	3
12 to 18 months,	10	2	12	1	3	4
18 to 24 months,	9	5	14	5	1	6
Over 2 years,	17	20	37	—	3	3
Totals,	47	30	77	47	30	77

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis,	45	30	75
Tubercular meningitis,	1	—	1
Chronic nephritis,	1	—	1
Totals,	47	30	77

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D., . . . *Superintendent.*
EDSON W. GLIDDEN, M.D., . . . *Assistant Superintendent and Physician.*
FRANCIS A. CAREY, M.D., . . . *Physician.*

JOSEPHINE E. BROWN, . . . *Matron.*
LESTON P. GIDDINGS, . . . *Steward.*
CLARENCE E. JACKSON, . . . *Chief Engineer.*
WILLIAM G. ATKINSON, . . . *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:— I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1913.

On Dec. 1, 1912, there were remaining in the sanatorium 179 patients, and during the year 370 were admitted, aggregating 549 patients cared for during the entire year. Of these 370 cases, 16, or 4 per cent., were incipient, 149, or 40 per cent., moderately advanced, 195, or 53 per cent., advanced, and 10 cases were not examined.

RESIDENCE.

The geographical distribution of patients admitted shows that 67 per cent. of the total number came from the five large centers of population of the southeastern section of the State, 59 other towns contributing only 33 per cent.

During the last three years the admissions from Boston have been respectively 37.6 per cent., 49.4 per cent. and 48.6 per cent. of the total; from Brockton, 4.2 per cent., 6.7 per cent. and 7 per cent.; from Fall River, 7.3 per cent., 5 per cent. and 7.2 per cent.; from New Bedford, 5.3 per cent., 2.9 per cent. and 2.1 per cent.; from Taunton, 3.1 per cent., 2.6 per cent. and 2.1 per cent.

CLASSIFICATION.

Of the 549 cases treated, 47, or 8 per cent., were maintained by private funds, 328, or 60 per cent., were supported by towns and cities, and 137, or 25 per cent., were State cases. There remain 37 cases, or 7 per cent., whose settlements are still undetermined.

WEIGHTS OF PATIENTS DISCHARGED.

Of the 335 patients discharged during the year 179 have made an average gain of 10.6 pounds and 59 have lost weight.

LENGTH OF STAY.

The average length of stay of patients discharged was 188 days, the longest stay being 1,026 days. By the use of the two shacks, which have been built by the sanatorium employees, and army tents purchased during the year, the daily average number of patients has been maintained at 194.852, exceeding the estimated number by 17.852. This was the cause of a deficit of \$1,800 in the total expenses of the year, but resulted, also, in a per capita cost 70 cents below the estimate. The total cost of maintenance was \$89,100, the receipts from sales \$2,140.37, leaving the net cost of \$86,959.63, or \$8.56 net per capita per week.

IMPROVEMENTS.

Throughout the year an effort has been made to improve buildings and grounds, with a view to making all details of the institution more efficient and more attractive. Much remains to be done to improve the grounds about the buildings, and to reduce the risk from brush fires in the wooded portion of the property.

Work on the new pavilion and ward additions, for which special appropriations were granted last spring, was begun on July 19, 1913, and these buildings will be ready for occupancy on Jan. 1, 1914.

FARM, STABLE AND GROUNDS.

The Bunton farm, on which an option was secured, produced hay, silage and fruit amounting to \$563.23, leaving a balance over expenses of \$141.79.

The farming operations of the sanatorium have been principally limited to an attempt to produce as liberal a supply as possible of good things in season, and winter supplies of vegetables when practicable. The result has been that our patients have consumed and enjoyed far more of this class of supplies than the institution could otherwise afford, and of better quality.

Considering the severe drought of last summer, the farm was fairly successful.

The poultry department produced 3,698 pounds of chicken, 2,622 pounds of fowl and 4,495 dozen of eggs, showing a satisfactory margin of profit for the year.

TREATMENT.

Rest. — All patients on admission are kept in bed and given to understand that rest is the first requisite of sanatorium treatment. After physical examination, which is made during the first week, the degree of rest is governed by the temperature and general condition of the patient, the rule being that no exercise is to be allowed until the patient has maintained a normal temperature for one week. An evening temperature of 100 degrees or more indicates rest in bed until the temperature is again normal for one week.

Exercise. — Exercise is begun by spending an hour or two in a steamer chair on the piazza, and increased by walking, making beds, dusting, sweeping, setting trays, gathering litter, waiting on table, etc.; and in summer, by caring for the grounds, assisting in planting and gathering vegetables and preparing them for the kitchen, care being taken to avoid a reaction. The routine care of sanatorium buildings and patients is the most constant source of exercise, as it affords a great variety of little tasks throughout the year.

The women share all the above sources of exercise, and are also encouraged to learn to do first-class tatting, crocheting and embroidery.

It is our aim to increase the exercise of the convalescent case to six or eight hours per day for two weeks, without rise of temperature, before he is sent back to work.

Diet. — The regular diet at the sanatorium is made to cover as great a variety as possible of simple nutritious food, with frequent additions of condiments and coarser food, without attempting any systematic forcing of concentrated nourishment, in the belief that patients do better and are better satisfied on a mixed diet of wide scope than upon textbook formulæ.

Many variations are necessary for digestive irregularities, and in many cases special diets are prescribed. Milk lunches between meals are given until patients reach normal weight, and then we try to maintain that weight by three regular meals. Raw eggs are prescribed for a limited number of patients, to be taken as a part of the three regular meals. Great harm has been done by the once accepted plan of stuffing the consumptive

with eggs, milk, beef and other concentrated proteid foods until his overload of proteid and his satiated stomach contribute to his undoing.

Complications. — The most frequent complications are digestive disturbances, tuberculous laryngitis, tuberculous peritonitis, tuberculous enteritis, ischiorectal abscess, fistula in ano, and adenitis, while tuberculous iritis, tuberculous keratitis, bone and joint infections and tuberculous kidney or bladder are not infrequent. Gastric disturbances may be due to overeating, which often results from the patient's long-continued attempt to take as much nourishment as possible, to swallowed sputum, or to mechanical irritation by coughing; possibly by a combination of these causes. As the patient's best asset is his digestion, these disorders demand constant attention in sanatorium treatment. Usually, a few days in bed on a liquid diet affords the much needed rest to the overtaxed stomach and, with proper attention to the bowels, the appetite returns and the annoying symptoms disappear. Constipation must never be overlooked, but is to be controlled by diet and mild laxatives if possible, by harsher measures if necessary.

Tuberculous laryngitis is perhaps the most distressing and the most disheartening complication seen in sanatorium work. The treatment used is generally palliative, as operative interference is rarely justifiable.

The extremely painful larynx, in our experience, is rare after a short period of treatment in the open air and the patient can be made fairly comfortable by cleansing and soothing sprays, inhalation, or intralaryngeal injections. Abstinence from talking is a most important factor in the treatment of this complication.

In treating tuberculous laryngitis and, in fact, all the other tuberculous complications mentioned above, the most important consideration is, that in the treatment of pulmonary tuberculosis we are dealing with a chronic systemic depression; that our only hope of healing the pulmonary lesion is in improving that systemic condition and in increasing the patient's resistance; and that complications which are incidental to the pulmonary disease are a part of the general depression and depend largely upon a general improvement for their cure.

Tuberculin. — Tuberculin (bacillen emulsion) was given to 23 cases during this year, the plan being to continue the treatment over a period of nine months and, if the patient could be kept under observation, for a longer period; to rest two or three months, then institute a second course of treatment covering the same period as the first course. At the present time suitable cases are urged to continue the treatment for not less than six months, then, if for economic or other reasons they cannot remain in the sanatorium longer, to return once each week for a longer time or to have a phthisiotherapist near their home continue the treatment. During the nine months, the tuberculin is given once each week in gradually ascending doses, reactions even of the mildest type being scrupulously avoided. These doses are not rapidly increased, there being no desire to reach large doses, the largest dose given in this series of cases being .00004 gram after a period of seven months.

Cases in which tuberculin was given this year were not all carefully selected, it being given in some cases in which no hope of permanent benefit was expected, but simply because patients had asked for it. In those cases which were selected, good results seem to have been obtained, though the series is far too small from which to draw conclusions. Among those who seemed favorable, an early subsequent gain of weight was seen, and in those cases whose condition had remained stationary after a period of ordinary sanatorium treatment, there was seen in the majority of cases a decided improvement. Another factor, making any definite conclusions impossible, is the fact that patients do not remain in the sanatorium for a sufficiently long period to complete the course.

Recreation. — Recreation is a necessity in sanatorium treatment to patients and employees alike. To those who are shut in, any occupation which relieves morbid introspection may be called recreation, and we find that the small daily tasks, the religious services, the fortnightly practical talks on tuberculosis, holiday celebrations and decorations, home-talent or professional entertainments, demonstrations of the beauties of nature and visits of friends, all furnish recreation.

Medication. — The medication employed at this sanatorium is largely symptomatic, our intention being to use drugs as little as possible consistent with the comfort of our patients.

IMPROVEMENTS RECOMMENDED.

The purchase of land and equipment for a dairy is again recommended because of the conviction that a more satisfactory supply than we have ever been able to buy can be produced at the sanatorium at a cost lower than the price paid at the present time.

The estimated daily consumption of 60 cans of milk during the coming year at 55 cents per can means a total expense of \$12,045.

A beginning should be made without delay to establish a sanitary dairy, and to this end a request is made for \$16,000 with which to purchase land, cows and equipment. Three tracts of land, aggregating about 114 acres, are available, of excellent quality and conveniently located. One of these tracts, lying on both sides of the New York, New Haven & Hartford Railroad embankment, within 1,000 feet of the sanatorium power plant, furnishes an ideal site for a coal trestle and railroad switch for receiving all supplies purchased in car-load lots.

The present system of buying coal makes it necessary to receive cargo lots, which is impossible at present, and a coal trestle is requested to meet this need. An appreciable saving on cost price, and a great saving in cost of handling, can be made by the use of a trestle. The estimated cost of a suitable trestle is \$2,500.

The sanatorium also needs a wagon scale to verify weights of supplies purchased or produced; a granolithic walk from the street to the women's ward; a wagon shed with paint shop, for the protection of carts and heavy wagons which have hitherto stood out in the weather when not in use; a small building for rendering bones and scrap to relieve the busy kitchen, to effect a practical economy, and relieve the administration building of disagreeable odors; and a complete set of screens for the new buildings now being completed, to make them habitable during the coming summer. An appropriation of \$2,600 is requested to meet these needs.

An extension of the sewer system is also necessary to meet the requirements of the new buildings, for which \$1,000 is requested.

The increase in the number of patients at the sanatorium makes necessary the addition of an adequate bakery to the main kitchen, for which \$2,500 is needed, and the addition of a small refrigerator for butter and milk to cost \$1,000.

MEDICAL SERVICE.

During the first four months of the year the sanatorium staff was lacking one physician, which made it difficult to give proper attention to all the details of sanatorium administration and medical service. In April the vacancy was filled by the appointment of Dr. Francis A. Carey of Taunton, a graduate of Baltimore Medical School in 1905.

In June the position of supervisor of nurses was vacated by the resignation of Miss Abbie A. Bliss, whose place has not yet been filled.

ACKNOWLEDGMENTS.

The sanatorium has been the recipient of many books, periodicals, flowers and Christmas gifts, which were much appreciated by the patients, and which are acknowledged with gratitude.

I wish to express our special appreciation of the kindly ministrations of Rev. Father Murphy and his colleague, Father O'Neil, and of the Protestant and Jewish clergymen of Middleborough and Taunton who have attended to the spiritual needs of our patients.

I wish, also, to commend the loyalty and efficiency of the heads of the several departments, and the willing service given by their subordinates, and to extend to your Board my appreciation of your confidence.

Respectfully submitted,

SUMNER COOLIDGE, M.D.,

Superintendent.

Payments.

To treasury of Commonwealth, institution receipts,	\$17,758 80
Maintenance appropriations:—	
Balance November schedule, 1912,	\$5,114 37
Eleven months schedules, 1913,	83,089 63
November advances,	3,236 89
	<hr/>
	91,440 89
Special appropriations:—	
Approved schedules,	13,044 03
Balance Nov. 30, 1913:—	
In bank,	\$818 70
In office,	154 78
	<hr/>
	973 48
Total,	\$123,217 20

MAINTENANCE.

Appropriation (\$87,300 plus \$1,800 transferred from extraordinary expenses),	\$89,100 00
Expenses (as analyzed below),	89,100 00
	<hr/>
Balance reverting to treasury of Commonwealth,	—

Analysis of Expenses.

Salaries, wages and labor:—	
Sumner Coolidge, M.D., superintendent,	\$2,500 00
General administration,	17,340 20
Medical service,	1,982 69
Ward service (male),	2,074 14
Ward service (female),	4,163 62
Repairs and improvements,	2,671 34
Farm, stable and grounds,	6,422 36
	<hr/>
	\$37,154 35
Food:—	
Butter,	\$1,373 75
Beans,	54 56
Bread and crackers,	120 59
Cereals, rice, meal, etc.,	259 34
Cheese,	46 77
Eggs,	1,553 80
Flour,	764 02
Fish,	773 59
Fruit (dried and fresh),	1,039 96
Lard,	121 08
Meats,	10,186 58
Milk,	7,931 15
Molasses and syrup,	57 90
Spices, seasonings, salt, etc.,	88 82
Sugar,	810 61
Tea, coffee, broma and cocoa,	371 88
Vegetables,	951 68
Yeast,	9 93
Sundries,	288 86
	<hr/>
	26,804 87
Amount carried forward,	\$63,959 22

<i>Amount brought forward,</i>		\$63,959 22
Clothing and materials: —		
Boots, shoes and rubbers,	\$1 90	
Clothing,	78 19	
Dry goods for clothing and small wares,	7 95	
		88 04
Furnishings: —		
Beds, bedding, table linen, etc.,	\$2,016 08	
Brushes, brooms,	129 56	
Carpets, rugs, etc.,	26 86	
Crockery, glassware, cutlery, etc.,	325 94	
Furniture and upholstery,	543 92	
Kitchen furnishings,	264 92	
Wooden ware, buckets, pails, etc.,	2 71	
Sundries,	376 51	
		3,686 50
Heat, light and power: —		
Coal,	\$2,972 44	
Freight on coal,	491 46	
Oil,	65 30	
Sundries,	254 01	
		3,783 21
Repairs and improvements: —		
Brick,	\$52 18	
Cement, lime and plaster,	123 91	
Doors, sashes, etc.,	106 36	
Electrical work and supplies,	374 55	
Hardware,	534 96	
Lumber,	1,139 82	
Tents,	58 23	
Paints, oil, glass, etc.,	248 33	
Plumbing, steam fitting and supplies,	934 96	
Roofing and materials,	24 56	
Sundries,	121 99	
		3,719 85
Farm, stable and grounds: —		
Blacksmith and supplies,	\$157 61	
Carriages, wagons, etc., and repairs,	79 40	
Fertilizers, vines, seeds, etc.,	1,603 09	
Hay, grain, etc.,	3,060 50	
Harnesses and repairs,	90 86	
Cows,	825 00	
Other live stock,	451 81	
Rent,	125 00	
Taxes,	46 24	
Tools, farm machines, etc.,	576 90	
Sundries,	461 11	
		7,477 52
Religious services,		878 10
Miscellaneous: —		
Books, periodicals, etc.,	\$126 96	
Cuspidor supplies,	472 34	
Entertainments,	94 61	
<i>Amount carried forward,</i>	\$693 91	\$83,592 44

<i>Amount brought forward,</i>	\$693 91	\$83,592 44
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Miscellaneous — *Con.*

Freight, expressage and transportation,	761 47	
Funeral expenses,	43 00	
Hose, etc.,	.	.	.	.	.	43 12	
Ice,	.	.	.	.	.	4 19	
Medicines and hospital supplies,	.	.	.	.	.	1,551 76	
Medical attendance, nurses, etc. (extra),	.	.	.	.	.	16 50	
Postage,	.	.	.	.	.	200 00	
Printing and printing supplies,	.	.	.	.	.	215 14	
Soap and laundry supplies,	.	.	.	.	.	478 19	
Stationery and office supplies,	.	.	.	.	.	139 91	
Travel and expenses (officials),	.	.	.	.	.	569 58	
Telephone and telegraph,	.	.	.	.	.	272 92	
Tobacco,	.	.	.	.	.	5 94	
Refrigeration,	139 82	
Sundries,	372 11	
							5,507 56

Total expenses for maintenance,	\$89,100 00
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SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1912,	-
Appropriations for fiscal year,	\$20,000 00
Total,	.	.	.	.	.	.	\$20,000 00
Expended during the year (see statement annexed),	.	.	.	.	.	.	13,044 03
Balance Nov. 30, 1913,	.	.	.	.	.	.	\$6,955 97

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	.	.	.	.	.	\$973 48	
November cash vouchers (paid from advance money) account of maintenance,	.	.	.	.	.	3,236 89	
Due from treasury of Commonwealth, account of November 1913, schedule,	1,800 00	
							\$6,010 37

Liabilities.

Schedule of November bills,	\$6,010 37
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PER CAPITA.

During the year the average number of inmates has been 194.852.

Total cost for maintenance, \$89,100.

Equal to a weekly per capita cost of \$8.7689.

Receipt from sales, \$2,140.37.

Equal to a weekly per capita of \$0.2106.

All other institution receipts, \$15,618.43.

Equal to a weekly per capita of \$1.5372.

Special Appropriations.

ОБЪЕКТ.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Pavilion,	Res. 1913, chap. 133	\$13,000 00	\$8,010 74	\$8,010 74	\$4,989 26
Additions to wards,	Res. 1913, chap. 133	6,000 00	4,740 57	4,740 57	1,259 43
Laboratory,	Res. 1913, chap. 133	1,000 00	292 72	292 72	707 28
		\$20,000 00	\$13,044 03	\$13,044 03	\$6,955 97

Respectfully submitted,

SUMNER COOLIDGE,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,
Assistant Supervisor of Accounts.

VALUATION.

Real estate: —

Land, number of acres, 75,	\$6,049 75
Buildings,	99,485 00
Power plant, laundry, machinery, heating, water and sewerage systems and improvements,	20,125 00
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Total real estate valuation,	\$125,659 75

Personal estate: —

Food,	\$1,952 81
Clothing,	171 14
Furnishings,	18,632 84
Heat, light and power,	315 66
Repairs and improvements,	1,525 13
Farm, stable and grounds,	8,315 10
Miscellaneous,	3,578 37
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Total personal property,	\$34,491 05

FARM PRODUCE.

Apples, 6 barrels, at \$1 to \$2,	\$7 00
Asparagus, 133½ pounds, at \$0.06½ to \$0.12½,	12 63
Lima beans, 25½ bushels, at \$1.50 to \$1.75,	38 53
String beans, 33½ bushels, at \$0.75 to \$2.50,	40 79
Beets, 378 bunches, at \$0.04½ to \$0.05,	16 57
Beets, 34½ bushels, at \$0.50 to \$1,	28 90
Blueberries, 115 boxes, at \$0.10 to \$0.18,	13 23
Cabbage, 30½ barrels, at \$0.80 to \$2.50,	42 49
Cabbage (for hens), 5 loads, at \$1,	5 00
Cabbage greens, 5 bushels, at \$0.20,	1 00
Calfskin, 1, at \$1.65,	1 65
Cantaloupes, 1,736, at \$0.05 to \$0.10,	162 50
Carrots, 309 bunches, at \$0.03 to \$0.05½,	16 18
Carrots, 36½ bushels, at \$0.50 to \$1.25,	22 07
Celery, 1,003½ bunches, at \$0.06 to \$0.09,	71 41
Corn, 6 dozen, at \$0.01 to \$0.05,	41
Corn, 277 bushels, at \$0.25 to \$1,	172 14
Corn stalks (sold),	20 00
Cucumbers, 202, at \$0.01½ to \$0.04,	5 14
Currants, 80 boxes, at \$0.14 to \$0.16,	11 96
Dandelions, 38 bushels, at \$0.35 to \$0.75,	23 95
Grapes, 370 pounds, at \$0.04 to \$0.14,	14 80
Hay, 33½ tons, at \$18 to \$24,	762 00
Lettuce, 11 heads, at \$0.02 to \$0.04½,	38
Lettuce, 145½ bushels, at \$0.30 to \$1.50,	87 30
Milk, 2,533½ cans, at \$0.55,	1,393 52
Oats and peas (fodder),	25 00
Onions, 813 bunches, at \$0.02½ to \$0.03½,	24 74
Onions, 17 bushels, at \$0.38 to \$1.25,	18 31
Parsley, 5 bunches, at \$0.10 to \$0.20,	60
Parsnips, 27½ bushels, at \$0.60 to \$1.50,	21 97
Peaches, 2 dozen (fancy), at \$0.50,	1 00
Peaches, 2 baskets, at \$1,	2 00
Peas, 26½ bushels, at \$1.40 to \$2.50,	59 38
Peppers, 1 bushel, at \$0.75,	75
Pork, 4,691 pounds, at \$0.10 to \$0.13,	541 20
Pigs (sold), 3, at \$4 to \$5,	14 00
Potatoes, 1,056½ bushels, at \$0.60 to \$0.83,	666 84
Pumpkins, 14 pounds, at \$0.14,	96
Quince, 1½ pecks, at \$0.40,	60
Radishes, 35½ bushels, at \$0.25 to \$1.60,	14 01
Raspberries, 476 boxes, at \$0.12 to \$0.15,	66 19
Rhubarb, 663 pounds, at \$0.08½ to \$0.08,	12 15
Rye straw, 4 tons, at \$20,	80 00
Silage, 52 tons, at \$2.50 (sold),	130 00
Spinach, 165½ bushels, at \$0.30 to \$0.90,	87 25

Summer squash, 432 pounds, at \$0.01 to \$0.08, . . .	\$12 32	
Winter squash, 1 barrel, at \$1, . . .	1 00	
Strawberries, 517 boxes, at \$0.12 to \$0.18, . . .	71 00	
Tomatoes, 637 pounds, at \$0.05, . . .	31 25	
Tomatoes, 183 bushels, at \$0.45 to \$3, . . .	174 12	
Turnips, 46 bushels, at \$0.15 to \$1, . . .	20 50	
Veal, 226 pounds, at \$0.14 to \$0.18, . . .	37 00	
Watermelons, 125, at \$0.17 to \$0.18, . . .	21 54	
		<hr/> \$5,107 21

Poultry produce: —

Chicken, 3,698 pounds, at \$0.24 to \$0.32, . . .	\$890 24	
Chickens (sold), 35, at \$0.75 to \$1, . . .	32 85	
Eggs, fresh, 2,612½ dozen, at \$0.20 to \$0.52, . . .	737 59	
Eggs, storage, 1,143½ dozen, at \$0.32 to \$0.42, . . .	498 20	
Fowl, 2,622 pounds, at \$0.17 to \$0.24, . . .	506 90	
Hen manure, 10½ tons, at \$10, . . .	105 00	
Sand dressing, 72 loads, at \$1 to \$2, . . .	87 00	
		<hr/> 2,857 78

Stock on hand Dec. 1, 1913: —

Beets, No. 1, 37 bushels, at \$1, . . .	\$37 00	
Beets, No. 2, 15 bushels, at \$0.70, . . .	10 50	
Beets, mangel, 105 bushels, at \$0.42, . . .	44 10	
Cabbage, Savoy, 83 barrels, at \$1.25, . . .	103 75	
Cabbage, drumhead, 21 barrels, at \$1.50, . . .	31 50	
Carrots, No. 1, 47 bushels, at \$1.75, . . .	82 25	
Carrots, No. 2, 8 bushels, at \$0.40, . . .	3 20	
Celery, 360 bunches, at \$0.09, . . .	32 40	
Parsnips, 18 bushels, at \$1, . . .	18 00	
Rye straw, 2 tons, at \$20, . . .	40 00	
Turnips, rutabaga, 27 bushels, at \$0.70, . . .	18 90	
Turnips, white egg, 5 bushels, at \$0.80, . . .	4 00	
Eggs, fresh, 76½ dozen, at \$0.52, . . .	39 95	
Eggs, storage, 661½ dozen, at \$0.42, . . .	277 80	
		<hr/> 743 35
		<hr/> \$8,708 34

POULTRY.

Feed: —		Dr.	
Grain, alfalfa, meat scrap, etc.,	.	.	\$1,176 79
30 barrels of cabbage at \$0.40,	.	.	12 00
Labor: —			
Hen man, 1 year,	.	.	420 00
Hen man, 1 year, board,	.	.	180 00
Fencing, 1 man 6 weeks,	.	.	64 80
Cleaning and sanding, 2 teams 8 days at \$3.50,	.	.	56 00
Cleaning and sanding, 3 men 8 days at \$1.80,	.	.	43 20
Whitewashing, 6 men 6 days at \$1.80,	.	.	64 80
Whitewashing, 1½ barrels lime at \$1.20,	.	.	1 80
Carpenter, 2 days at \$3,	.	.	6 00
Helper, 2 days at \$1.80,	.	.	3 60
Dressing poultry, 1 man 21 days at \$2,	.	.	42 00
Gathering leaves: —			
2 teams 3 days at \$3.50,	.	.	21 00
5 men 4 days at \$1.80,	.	.	36 00
Coal, 1 ton at \$6.70,	.	.	6 70
Land plaster, ½ ton, at \$11,	.	.	5 50
Barrels for storage, 16, at \$0.50,	.	.	8 00
Sodium silicate, 30 gallons, at \$0.20,	.	.	6 00
Young chickens, 2,700, at \$0.12 and \$0.14,	.	.	376 56
Interest, 4 per cent. on investment (\$1,900),	.	.	76 00
Total,	.	.	\$2,606 75
		Cr.	
Fowl, dressed, 2,622 pounds, at \$0.17 to \$0.24,	.	\$506 90	
Chickens, dressed, 3,698 pounds, at \$0.24,	.	890 24	
Chickens, sold alive,	.	32 10	
			\$1,429 24
Eggs used, fresh, 2,612½ dozen (\$0.20 to \$0.52),	.	\$737 59	
Eggs, farm storage, 1,143⅞ dozen (\$0.32 to \$0.42),	.	498 20	
Eggs, on hand, fresh, Nov. 30, 76¼ dozen (\$0.52),	.	39 95	
Eggs, on hand, farm storage, Nov. 30, 661⅞ dozen (\$0.42),	.	277 80	
			1,553 54
Amount carried forward,	.	.	\$2,982 78

Amount brought forward,	\$2,982 78
Pullets on hand over 1912:—	
166 at \$1,	\$166 00
160 at \$0.75,	120 00
	<hr/>
	286 00
Manure, 10½ tons, at \$10,	\$105 00
Sand dressing:—	
15 loads, at \$2,	30 00
57 loads, at \$1,	57 00
	<hr/>
	192 00
	<hr/>
Total,	\$3,460 78

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	99	80	179
Number received during the year,	223	147	370
Number discharged or died during the year,	190	145	335
Number at end of fiscal year,	132	82	214
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	115	79	194
Average number of officers and employees during the year,	24	50	74

Expenditures.

Current expenses:—

1. Salaries and wages,	\$37,154 35
2. Clothing,	88 04
3. Subsistence,	26,804 87
4. Ordinary repairs and improvements,	3,719 85
5. Office, domestic and outdoor expenses,	21,332 89

Total,	\$89,100 00
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Extraordinary expenses:—

1. New buildings, land, etc.,	\$8,010 74
2. Permanent improvements to existing building and grounds,	5,033 29

Total,	\$13,044 03
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Grand total,	\$102,144 03
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Summary of Current Expenses.

Total expenditures,	\$102,144 03
Deducting extraordinary expenses,	13,044 03
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	\$89,100 00
Deducting amount of sales,	2,140 37
	<hr/>
	\$86,959 63

Dividing this amount by the daily average number of patients, 194.852, gives a cost for the year of \$446.28, equivalent to an average weekly net cost of \$8.56.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted, Dec. 1, 1912, to Nov. 30, 1913, inclusive.	223	147	370
Number of patients discharged, Dec. 1, 1912, to Nov. 30, 1913, inclusive.	190	145	335
Number of deaths (included in preceding item), . . .	42	30	72
Number remaining in sanatorium, Nov. 30, 1913, . . .	132	82	214
Daily average number of patients,	115	79	194
Daily average number of bed patients, Dec. 1, 1912, to Nov. 30, 1913.	34	28	62

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	111	66	177
Single,	100	67	167
Widowed,	10	13	23
Divorced,	1	1	2
Separated,	1	—	1
Totals,	223	147	370

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
1 to 14 years,	1	—	1
14 to 20 years,	16	19	35
20 to 30 years,	75	63	138
30 to 40 years,	70	39	109
40 to 50 years,	39	23	62
Over 50 years,	22	3	25
Totals,	223	147	370

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	93	23	27	55	15	21	148	38	48
Other New England States, . . .	14	11	7	9	13	11	23	24	18
Other States,	9	7	8	5	6	2	14	13	10
Philippine Islands,	1	1	1	—	—	—	1	1	1
Total native,	117	42	43	69	34	34	186	76	77
Other countries: —									
Austria,	5	5	5	2	2	2	7	7	7
Asia Minor,	—	—	—	1	1	—	1	1	—
Belgium,	—	—	—	1	—	1	1	—	1
Bohemia,	1	1	1	—	—	—	1	1	1
Brazil,	—	1	1	—	—	—	—	1	1
Canada,	21	33	39	23	29	30	44	62	69
Denmark,	2	2	2	—	—	—	2	2	2
England,	3	8	10	4	5	8	7	13	18
Finland,	1	2	3	2	3	3	3	5	6
Germany,	4	5	4	2	3	3	6	8	7
Ireland,	16	53	48	15	35	31	31	88	79
Italy,	10	11	11	2	2	2	12	13	13
Newfoundland,	2	2	2	2	3	3	4	5	5
Norway,	1	1	1	—	—	—	1	1	1
Poland,	3	4	4	—	—	—	3	4	4
Portugal,	—	1	1	—	—	—	—	1	1
Roumania,	1	1	1	—	—	—	1	1	1
Russia,	25	28	28	17	19	18	42	47	46
Scotland,	2	7	6	—	2	1	2	9	7
Sweden,	7	9	9	3	4	4	10	13	13
Syria,	1	1	1	1	1	1	2	2	2
Turkey,	1	1	1	1	1	1	2	2	2
Western Islands,	—	—	—	—	1	1	—	1	1
Total foreign,	106	176	178	76	111	109	182	287	287
Unknown,	—	5	2	2	2	4	2	7	6
Totals,	223	223	223	147	147	147	370	370	370

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Abington,	1	-	1	Melrose,	1	1	2
Adams,	1	-	1	Middleborough,	1	1	2
Attleborough,	1	2	3	Middleton,	1	-	1
Auburn,	1	-	1	Milford,	1	1	2
Avon,	-	1	1	Millbury,	1	-	1
Beverly,	1	-	1	Milton,	1	-	1
Boston,	107	73	180	Natick,	-	1	1
Bridgewater,	3	1	4	Needham,	-	1	1
Brockton,	16	10	26	New Bedford,	5	3	8
Brookline,	2	-	2	Newton,	4	-	4
Byfield,	1	-	1	North Attleborough,	2	-	2
Cambridge,	-	1	1	Norfolk,	1	2	3
Canton,	1	-	1	Orleans,	-	1	1
Centerville,	-	1	1	Plymouth,	1	2	3
Chelsea,	2	1	3	Provincetown,	2	1	3
Danvers,	2	-	2	Quincy,	7	2	9
Dedham,	3	2	5	Revere,	2	-	2
Dennis,	-	1	1	Rockland,	1	-	1
Dighton,	-	1	1	Sherborn,	-	1	1
Easton,	1	-	1	Somerville,	2	3	5
Everett,	2	1	3	Southbridge,	4	-	4
Fall River,	19	8	27	Spencer,	-	1	1
Fitchburg,	1	-	1	Springfield,	1	-	1
Framingham,	1	-	1	Stoughton,	1	-	1
Holyoke,	1	-	1	Taunton,	4	4	8
Hudson,	1	1	2	Walpole,	1	2	3
Hyannis,	-	1	1	Waltham,	1	1	2
Lawrence,	1	-	1	Watertown,	-	1	1
Leominster,	1	-	1	Weymouth,	1	2	3
Lynn,	-	1	1	Whitman,	-	3	3
Malden,	1	2	3	Worcester,	4	5	9
Mansfield,	1	-	1	Totals,	223	147	370
Marlborough,	1	-	1				

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Advertiser,	1	-	1	Jeweler,	6	-	6
Barber,	2	-	2	Jobber,	1	-	1
Bartender,	1	-	1	Laborer,	14	-	14
Blacksmith,	1	-	1	Longshoreman,	1	-	1
Bookbinder,	1	-	1	Machinist,	8	-	8
Bookkeeper,	1	3	4	Mechanic,	6	-	6
Bowling alley attendant,	2	-	2	Messenger boy,	1	-	1
Brakeman,	1	-	1	Motorman,	2	-	2
Brewery worker,	1	-	1	Nurse,	2	1	3
Butler,	1	-	1	Operative,	39	26	65
Cap maker,	1	-	1	Painter,	4	-	4
Carpenter,	6	-	6	Paper hanger,	2	-	2
Chauffeur,	1	-	1	Pearl worker,	1	-	1
Chemist,	1	-	1	Peddler,	4	-	4
Clerk,	13	4	17	Pianist,	1	-	1
Collector,	1	-	1	Plumber,	2	-	2
Compositor,	-	1	1	Potter,	1	-	1
Conductor,	3	-	3	Printer,	6	-	6
Cook,	4	1	5	Sailor,	1	-	1
Demonstrator,	-	1	1	Salespeople,	8	4	12
Designer,	3	-	3	Sculptor,	1	-	1
Domestic,	-	33	33	Shoemaker,	1	-	1
Dressmaker,	-	2	2	Silversmith,	2	-	2
Elevator man,	1	-	1	Stableman,	1	-	1
Engineer,	2	-	2	Steam fitter,	3	-	3
Farmer,	2	-	2	Stenographer,	-	2	2
Fireman,	2	-	2	Steward, club,	1	-	1
Fisherman,	3	-	3	Stone cutter,	6	-	6
Forester,	1	-	1	Student,	5	6	11
Freight hand,	1	-	1	Tailor,	11	2	13
Furrier,	3	-	3	Teacher,	-	1	1
Gardener,	1	-	1	Telegraph operator,	-	2	2
Glassworker,	2	-	2	Teamster,	12	-	12
Home,	-	1	1	Tinsmith,	1	-	1
Housewife,	-	52	52	Typewriter,	-	1	1
Insurance agent,	1	-	1	Waiter,	2	4	6
Janitor,	3	-	3	Totals,	223	147	370

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	11	5	16
Moderately advanced,	91	58	149
Advanced,	118	77	195
Not examined,	3	7	10
Totals,	223	147	370

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Arrested,	15	18	33	10
Improved,	78	49	127	38
Progressive,	30	31	61	18
Not considered,	25	17	42	13
Died,	42	30	72	21
Totals,	190	145	335	100

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	-	-	-	6	3	9
1 to 2 months,	-	-	-	6	5	11
2 to 3 months,	-	-	-	8	5	13
3 to 4 months,	-	1	1	2	2	4
4 to 5 months,	-	-	-	1	2	3
5 to 6 months,	-	2	2	2	1	3
6 to 7 months,	-	-	-	1	1	2
7 to 8 months,	1	-	1	1	6	7
8 to 9 months,	-	-	-	-	1	1
9 to 10 months,	-	1	1	4	-	4
10 to 11 months,	1	1	2	1	-	1
11 to 12 months,	-	-	-	1	-	1
1 to 2 years,	16	8	24	6	3	9
2 to 3 years,	3	4	7	3	1	4

TABLE 9. — *Deaths* — Concluded.

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
3 to 4 years,	8	2	10	—	—	—
4 to 5 years,	3	5	8	—	—	—
5 to 6 years,	1	1	2	—	—	—
6 to 8 years,	3	—	3	—	—	—
8 to 10 years,	—	1	1	—	—	—
10 to 12 years,	1	—	1	—	—	—
Unknown,	5	4	9	—	—	—
Totals,	42	30	72	42	30	72

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis pulmonalis,	42	29	71
Pulmonary abscess (nontubercular),	—	1	1
Totals,	42	30	72

TABLE 11. — *Classification of Discharges.*

	Males.	Females.	Totals.
Total number discharged,	148	115	263
Number died,	42	30	72
Totals,	190	145	335

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D., . . . *Superintendent.*
ROY MORGAN, M.D., . . . *Assistant Superintendent and Physician.*
JOHN I. PINCKNEY, M.D., . . . *Physician.*

CARRIE A. BAILEY, *Head Nurse.*
ALVENA F. LAUSMANN, *Head Nurse.*
EMILY B. POLLARD, *Head Nurse.*
HERBERT W. SMITH, *Steward.*
WALTER PROUTY, *Chief Engineer.*
JOHN GURKOSKI, *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:— I have the honor to submit to you the fourth annual report of the Westfield State Sanatorium, for the year ending Nov. 30, 1913. The usual financial statement and statistical tables are appended.

Two hundred and seventy-three patients have been admitted during the year, which is 36 less than in 1912. Although the number of new patients has been fewer, our daily average under treatment has increased from 176.3 to 182.6. The explanation for this is that the average length of stay of each patient has increased from 185 days, in 1912, to 229, in 1913.

LENGTH OF RESIDENCE.

Twenty-eight stayed less than thirty days; 177 from one month to twelve months; 42 from one to two years; 10 more than two years; 1 more than three years. The longest length of stay was 1,301 days.

SUPPORT OF PATIENTS.

Of the 273 admitted during the year, 62 paid their own board of \$4 per week, 150 were supported by cities and towns, 44 were State charges, and the status of 17 has not yet been determined.

CHILDREN.

More than a third of the daily average number of patients has been made up of children under sixteen years of age. This has necessitated employing more nurses and attendants to keep them under proper supervision. The character of the institution has changed very much since their admission, and it is a much more cheerful place because of their presence. The number of bed patients has lessened considerably as the pro-

portion of advanced febrile cases is much smaller among the children. They respond more quickly to the treatment and after a few days are rarely homesick. As they have no home worries or responsibilities, they are more contented and usually remain under treatment until we consider them well enough to go home. Their average stay, therefore, is longer than it is with the adults. I try to keep them here at least a year if on admission there are signs of active disease. It is especially important with them to attain a thorough arrest of the disease before they are discharged to homes where there is little likelihood of their having even fair living conditions. Sanatorium treatment of tuberculous children is much more satisfactory as regards immediate good results than is the case with adults. A child with advanced active disease will respond more frequently and promptly to treatment. On the other hand persistent follow-up work by local boards of health and social service workers after discharge is even more necessary if we are to prevent relapses, because they are entirely dependent upon others for proper food and shelter.

SANATORIUM SCHOOL.

The good work begun last year by our school teacher, Miss Pratt, has been continued. The average membership has been 65 pupils; the daily average attendance has been 61, or 88 per cent. This percentage of attendance would be considered high even for a public school composed of supposedly well children. These patient pupils have fewer rises of temperature and gain weight more steadily during the periods when school is in session than during vacations. Each child attends but one session of two and one-half hours daily. The school is graded according to public school standards. The four higher grades attend the morning session, and the first four grades the afternoon session. In addition to this a few children are continuing some of their high school studies. Because they live in the open air so much, and have widely opened windows in the schoolroom, they are always eager and alert, and can accomplish in one session the average day's work done in a public school. Many of the children are backward in their studies because illness has prevented regular attendance at

school before coming here. After a thorough review of their previous school work they are not only ready to go on easily with their proper grade, but in many instances have been able to go into an advanced class. This has been especially noticeable in the lower grades, which tends to show that children attend school at a needlessly early age. As our public school-houses are now ventilated, and two sessions of school is the rule, I am sure that it would be decidedly better for the physical welfare of the children if the age for entering school were raised to seven years. When children have reached this age, they have already absorbed considerable general knowledge and are mentally competent to grasp school work more rapidly. The two years' delay in starting is not a handicap worth considering, as it will be soon overcome. The fact that our children can accomplish in one session the work done in the grammar grades, shows clearly to my mind that the public schools could group their children into multiples of not over 30 children and cover the usual work in one session. Their mental faculties could be speeded up to normal by the fresh air from open windows and the health of the children would not suffer from long hours of confinement.

TREATMENT.

The routine system is as follows: on admission the patient is kept about the ward for a week for observation. If the patient's temperature is above 99.5°, he is put to bed where he remains until the temperature reaches normal and remains so for several days. He is then allowed to go to the dining room for meals, and exercise about the ward is permitted. If the temperature and pulse remain normal, the patient makes his own bed and is allowed to walk about the grounds. The amount of walking is increased as the patient's strength and resistance improves, using the pulse and temperature as a guide. All patients rest one-half hour, on their bed, before dinner and supper, and one hour and a half after dinner. When a patient proves that he is able to walk at least two miles without ill effects, some ward or dining room work is assigned to him. At first, this may not take more than fifteen minutes' time; then this is increased as we find the patient's strength improves.

After a preliminary period of rest, the length depending upon the activity of the disease, I am confident that gradually increased amounts of exercise and work are the best therapeutic measures that we could prescribe for a patient. Especially is this true of chronic cases of a fibroid type. Only by such means can they reach a higher degree of health. They should be given some congenial work and at their own trade if possible. It is even more true of a sick person than it is with a well one that what has once been learned can be done with the least fatigue and the most satisfaction. A tuberculous carpenter, for instance, can work at his trade without ill effects for a considerable length of time, while if he were put to less congenial work, such as making beds or sweeping wards, a rise of temperature or other untoward symptoms might manifest themselves. I have had several illustrations of this. The mental attitude of the patient must be in harmony with the work assigned, to get the best results. This is an ideal condition difficult to provide for many patients, but we should approach it as nearly as possible. I believe a well-equipped workshop is necessary for the proper treatment of my men patients, and a workroom of a similar nature should be provided for the women. The school serves this purpose for the children, but on account of the large number of children at the present time the recreation room, where we hold the school sessions, is not a suitable place, and we need a separate schoolhouse badly. I hope to present plans for a workshop and school building before another year.

DIET.

The days of forced feeding are over in nearly all sanatoria. We serve lunches of milk between meals only when a patient is under weight. Raw eggs are not prescribed if a patient can eat a reasonable amount of food. Three good meals a day, at the regular intervals, will usually satisfy a patient's appetite. Lunches often tend to produce anorexia and indigestion. Owing to past teaching to the contrary, it is as difficult to convince patients of this fact as it is to get them to consider work as a therapeutic measure.

TUBERCULIN.

Many of the patients on admission have or have had cervical or bronchial adenitis. In all of these cases I give B. E. tuberculin as a routine measure, beginning with .0001 milligram and very gradually, in the course of three to six months, increasing the dose up to a maximum of 10 milligrams. The glands decrease very much in size, or disappear, in nearly all cases treated in this way, and, in addition, I cannot but feel that something has been added to their resistance by the treatment. I have also given tuberculin to a few adults who have been selected for this treatment, because they were chronic stationary cases, who did not appear to have quite enough vitality to subdue the smouldering focus of the disease. Frequently, such patients begin to improve under this treatment, thus indicating that they have acquired some immunity.

PNEUMOTHORAX.

Nitrogen gas has been used in the treatment of 18 men and 13 women. Last spring my series of cases of pneumothorax cases was tabulated and reported to the meeting of the American Sanatorium Association. This report and the discussion which followed was published in the transactions of that society. I feel confident that in selected cases, where the disease is confined almost entirely to one lung, and where there are but few adhesions, and the lung has not become too fibroid, that this treatment will often give remarkably good results. It should be used in such cases whenever active symptoms do not subside within a reasonable time after routine sanatorium treatment has been tried.

IMPROVEMENTS.

Power House and Laundry Building. — Work on this building began last spring as soon as the appropriation was available. As the bids received were in excess of the amount appropriated, a competent foreman was engaged and the work has been done under his supervision, all material being purchased by the institution. The building is completed with the exception of the sleeping rooms in the second story. The power and laundry equipment was moved into it in October. Two larger boilers

and one new engine were installed. We have now a very well-equipped power house and laundry, so situated that our heating system has been much improved. No smoke or coal dust can get into the other buildings, and a serious fire hazard has been eliminated. Several thousand dollars have been saved by organizing a construction department and doing this work ourselves.

Children's Ward. — This building was not begun until September, but work has gone along rapidly, and I expect that it will be ready for occupancy by the 1st of February. This construction is also being done by our own employees. When this ward is completed 70 more patients can be accommodated, which will bring our capacity up to 250 beds.

RECOMMENDATIONS.

We are asking for a special appropriation of \$3,926.43 for a coal trestle, to be located near the new underpass. From this point a new road has been built having but an 8 per cent. grade. The distance between this proposed location and our power house is 2,100 feet. We now lease a small plot of ground from the Boston & Albany Railroad for \$12 a year. This siding is 3,750 feet from our power house. If our request is granted, we will save 1,650 feet in distance and the grade will be reduced from 12 to 8 per cent. There will be a saving of from \$180 to \$200 a year, which we now pay for shovelling coal from cars. This year, if we could have stored all of our coal before December 1, there would have been a further saving of 20 cents per ton.

Grading, Concrete Walks and Street Lighting. — It will be necessary to do a large amount of grading about the children's ward and power house. We should have concrete walks connecting our buildings, and one connecting the institution with the State highway. Many employees and visitors have to use this walk after dark, and for this reason it should be well lighted. An appropriation of \$2,500 has been asked for this purpose.

Fireproof Vault. — The Commissioner on Public Records has notified us that a fireproof vault must be built in which to store our records. A plan has been made which meets with his approval. The cost is estimated by the architects as \$1,500.

ACKNOWLEDGMENTS.

Religious Services.—In April we began to have religious services every Sunday, instead of every two weeks, by both the Catholic and Protestant clergymen. A Jewish service is held each month. This increase in the number of services is much appreciated by both the employees and patients. The work of the chaplains among the patients is very helpful, and I appreciate greatly their devoted service.

Many gifts for the patients have been sent in by people in the surrounding towns. Especially at Christmas time have they been liberal with donations. I appreciate very much this evidence of their interest and good will toward the institution. Many books have been given to us by friends, and by the Worcester, Springfield and Northampton libraries. Our patients' library now consists of over 1,000 volumes, and has a weekly circulation of more than 100 books.

I have been fortunate in retaining the services of my assistant physicians, heads of departments, many nurses and other employees, for another year. Their services become more valuable the longer they remain, as their knowledge of the routine work, their loyalty, and their devotion to duty aid materially in making efficient and successful the work of the institution.

I desire again to acknowledge my obligations to you for the encouragement, confidence and courtesy which I have always received at your hands.

Respectfully submitted,

HENRY D. CHADWICK,

Superintendent.

REPORT OF THE TREASURER.

To the Trustees of the Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1913:—

CASH ACCOUNT.

Balance Dec. 1, 1912, \$1,276 64

*Receipts.**Institution Receipts.*

Board of inmates:—

Private, \$4,599 74

Cities and towns, 19,876 01

\$24,475 75

Sales:—

Food, \$780 73

Miscellaneous, 57 77

Farm, stable and grounds:—

Cows and calves, . . . \$9 00

Pigs and hogs, . . . 490 18

Hides, 19 93

Vegetables, 72 26

Sundries, 5 50

596 87

1,435 37

Miscellaneous receipts:—

Interest on bank balances, . . . \$104 36

Sundries, 223 45

327 81

26,238 93

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1912, \$53 23

Advance money (amount on hand November 30), . . . 4,311 29

Approved schedules of 1913, . . . \$84,309 73

Less returned, 13 86

84,295 87

88,660 39

Special appropriations, 25,982 53

Total, \$142,158 49

Payments.

To treasury of Commonwealth, institution receipts,		\$26,238 93
Maintenance appropriations: —		
Balance November schedule, 1912,	\$1,329 87	
Eleven months schedules, 1913,	84,295 87	
November advances,	3,282 82	
	<hr/>	88,908 56
Special appropriations: —		
Approved schedules,		25,982 53
Balance Nov. 30, 1913: —		
In bank,	\$134 06	
In office,	894 41	
	<hr/>	1,028 47
Total,		<hr/> \$142,158 49

MAINTENANCE.

Appropriation,	\$88,500 00
Transferred from small items (deficiency of 1912),	107 16
Transferred from extraordinary expenses (deficiency of 1913),	6,389 75
	<hr/>
	\$94,996 91
Expenses (as analyzed below),	94,996 91
	<hr/>
Balance reverting to treasury of Commonwealth,	—

Analysis of Expenses.

Salaries, wages and labor: —	
Henry D. Chadwick, superintendent,	\$2,500 00
General administration,	16,451 01
Medical service,	2,283 22
Ward service (male),	1,315 47
Ward service (female),	5,612 82
Repairs and improvements,	2,351 76
Farm, stable and grounds,	7,742 93
	<hr/>
	\$38,257 21
Food: —	
Butter,	\$2,233 82
Beans,	20 83
Bread and crackers,	69 59
Cereals, rice, meal, etc.,	203 44
Cheese,	135 01
Eggs,	2,660 87
Flour,	418 82
Fish,	767 44
Fruit (dried and fresh),	1,361 12
Lard,	232 97
Meats,	15,129 85
Milk,	282 24
Molasses and syrup,	19 42
Spices, seasonings, salt, etc.,	104 03
Sugar,	819 30
	<hr/>
Amounts carried forward,	\$24,458 75
	<hr/>
	\$38,257 21

<i>Amounts brought forward,</i>	\$24,458 75	\$38,257 21
Food — <i>Con.</i>		
Tea, coffee, bromo and cocoa,	555 69	
Vegetables,	1,833 21	
Yeast,	47 79	
Sundries,	480 29	
		27,375 73
Clothing and materials: —		
Boots, shoes and rubbers,	\$65 35	
Clothing,	204 49	
Dry goods for clothing and small wares,	39 95	
Furnishing goods,	16	
Hats and caps,	5 05	
		315 00
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,448 65	
Brushes, brooms,	176 60	
Carpets, rugs, etc.,	116 68	
Crockery, glassware, cutlery, etc.,	217 57	
Furniture and upholstery,	336 60	
Kitchen furnishings,	513 09	
Wooden ware, buckets, pails, etc.,	17 70	
Sundries,	187 50	
		3,014 39
Heat, light and power: —		
Coal,	\$2,844 69	
Freight on coal,	2,498 08	
Oil,	335 87	
Sundries,	486 45	
		6,165 09
Repairs and improvements: —		
Brick,	\$6 80	
Cement, lime and plaster,	215 77	
Doors, sashes, etc.,	65 00	
Electrical work and supplies,	318 50	
Hardware,	543 77	
Lumber,	1,024 16	
Machines (detached),	568 88	
Paints, oil, glass, etc.,	722 37	
Plumbing, steam fitting and supplies,	927 02	
Roofing and materials,	144 00	
Sundries,	366 25	
		4,902 52
Farm, stable and grounds: —		
Blacksmith and supplies,	\$230 95	
Carriages, wagons, etc., and repairs,	193 50	
Fertilizers, vines, seeds, etc.,	217 27	
Hay, grain, etc.,	3,937 80	
Harnesses and repairs,	64 21	
Horses,	200 00	
Cows,	2,455 00	
Other live stock,	190 00	
<i>Amounts carried forward,</i>	\$7,488 73	\$80,029 94

<i>Amounts brought forward,</i>	\$7,488 73	\$80,029 94
Farm, stable and grounds— <i>Con.</i>		
Rent,	39 00	
Tools, farm machines, etc.,	282 29	
Sundries,	274 93	
	<hr/>	8,084 95
Religious services,		886 00
Miscellaneous:—		
Books, periodicals, etc.,	\$30 35	
Cuspidor supplies,	289 82	
Entertainments,	32 87	
Freight, expressage and transportation,	685 23	
Funeral expenses,	70 00	
Medicines and hospital supplies,	1,409 01	
Medical attendance, nurses, etc. (extra),	38 50	
Postage,	151 29	
Printing and printing supplies,	296 19	
Soap and laundry supplies,	848 71	
Stationery and office supplies,	528 00	
School books and school supplies,	177 28	
Travel and expenses (officials),	427 50	
Telephone and telegraph,	455 13	
Tobacco,	1 75	
Sundries,	554 39	
	<hr/>	5,996 02
Total expenses for maintenance,		\$94,996 91
SPECIAL APPROPRIATIONS.		
Balance Dec. 1, 1912,		\$1,856 03
Appropriations for fiscal year,		37,000 00
		<hr/>
Total,		\$38,856 03
Expended during the year (see statement annexed),	\$25,982 53	
Reverting to treasury of Commonwealth,	04	
	<hr/>	25,982 57
Balance Nov. 30, 1913,		\$12,873 46

RESOURCES AND LIABILITIES.

<i>Resources.</i>		
Cash on hand,	\$1,028 47	
November cash vouchers (paid from advance money), account of maintenance,	3,282 82	
Due from treasury of Commonwealth, account of November, 1913, schedule,	6,389 75	
	<hr/>	\$10,701 04
<i>Liabilities.</i>		
Schedule of November bills,		\$10,701 04

PER CAPITA.

During the year the average number of inmates has been 182.6.

Total cost for maintenance, \$94,996.91.

Equal to a weekly per capita cost of \$9.976+.

Receipt from sales, \$1,435.37.

Equal to a weekly per capita of \$0.1507+.

All other institution receipts, \$24,803.56.

Equal to a weekly per capita of \$2.605+.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Cow stable,	Acts 1912, chap. 92	\$2,000 00	\$355 99	\$1,999 96	\$0 04 ¹
Cows,	Acts 1912, chap. 92	1,500 00	1,500 00	1,500 00	—
Power house and laundry,	Acts 1913, chap. 133	17,000 00	15,475 20	15,475 20	1,524 80
Children's ward,	Acts 1913, chap. 133	20,000 00	8,651 34	8,651 34	11,348 66
		\$40,500 00	\$25,982 53	\$27,626 50	\$12,873 46

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

HENRY D. CHADWICK,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,
Assistant Supervisor of Accounts.

VALUATION.

Real Estate.

Land:—

Used for tillage, 23½ acres,	\$1,762 50
Used for pasture, 5 acres,	50 00
Used for grounds, 30 acres,	4,095 00
Used for mowing, 27 acres,	2,025 00
Used for woodland, 40 acres,	2,000 00
Waste and miscellaneous, 52½ acres,	307 50

Buildings:—

Administration,	39,968 36
Inmates,	35,609 00
Farm, stable and grounds,	11,275 00
Employees,	5,100 00
Heat, light and power,	14,300 00

Miscellaneous:—

Sewage system,	1,783 65
Equipment for heat, light and power,	10,150 79
Water system,	1,981 53
Heating system, pipes connecting buildings,	834 21
Hot water system, pipes connecting buildings,	277 98

Total valuation of real estate, \$131,520 52

Personal Property.

East ward,	\$4,312 72
West ward,	4,227 11
Laboratory,	646 00
Administration building,	1,304 40
Service building,	927 88
Annex,	972 50
Farm employees' dormitory,	255 52
Day farmhouse,	301 19
Superintendent's apartments,	663 98

Amounts carried forward, \$13,611 30 \$131,520 52

<i>Amounts brought forward,</i>	.	.	.	.	\$13,611 30	\$131,520 52
Staff camp,	.	.	.	.	.	52 63
Office,	.	.	.	.	.	1,527 75
Schoolroom,	.	.	.	.	.	531 64
Kitchen,	.	.	.	.	.	2,551 95
Bakery,	.	.	.	.	.	510 32
Laundry,	.	.	.	.	.	885 44
Storeroom,	.	.	.	.	.	1,545 26
Engine room,	.	.	.	.	.	1,702 44
Paint shop,	.	.	.	.	.	157 01
Farm,	.	.	.	.	.	11,842 74
						<hr/>
Total valuation of personal property,	.	.	.	.	.	34,918 48
						<hr/>
Total valuation,	.	.	.	.	.	\$166,439 00

PRODUCE OF FARM.

8 bushels string beans.	12 bushels peas.
500 bushels beets.	16 baskets peppers.
4 bushels beet greens.	200 bushels potatoes.
200 barrels cabbage.	3 barrels pumpkins.
150 bushels carrots.	13 bushels radishes.
12 dozen cauliflower.	14 bushels summer squash.
1,715 bunches celery.	24 baskets tomatoes.
700 dozen sweet corn.	40 baskets green tomatoes.
162 dozen cucumbers.	12 bushels turnips.
89 bushels dandelions.	10 bushels spinach.
112 egg plants.	16 tons mangel beets.
100 bunches leeks.	100 bushels rye.
133 boxes lettuce.	20 tons mixed hay.
30 bushels onions.	5 tons millet.
59 bunches parsley.	5 tons green oats.
250 pounds rhubarb.	3 tons rye straw.
25 bushels parsnips.	

Received from the sale of pigs, hogs and calves,	\$519 11
Received from the sale of vegetables,	72 26
Beef used by sanatorium,	152 40
Veal used by sanatorium,	19 24
Pork used by sanatorium,	480 96
Milk produced, 120,985 quarts, at \$0.06 per quart,	7,259 10

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number received during the year,	137	136	273
Number passing out of the institution during the year, .	127	131	258
Number at the end of the fiscal year in the institution, .	96	89	185
Daily average attendance (number of inmates actually present) during the year.	94.5	88.1	182.6
Average number of employees and officers during the year,	49.1	23.1	73.2

Expenditures.

Current expenses: —

1. Salaries and wages,	\$38,257 21
2. Clothing,	315 00
3. Subsistence,	27,375 73
4. Ordinary repairs,	4,902 52
5. Office, domestic and outdoor expenses, .	24,146 45

Total,	\$94,996 91
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Extraordinary expenses: —

1. Permanent improvements to existing buildings and new construction,	25,982 53
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Grand total,	\$120,979 44
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STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1912 to Nov. 30, 1913, inclusive.	137	136	273
Number of patients discharged Dec. 1, 1912 to Nov. 30, 1913, inclusive.	127	131	258
Number of deaths (included in preceding item),	30	21	51
Daily average number of patients,	—	—	182.6
Number in sanatorium Dec. 1, 1912,	—	—	170
Number remaining Nov. 30, 1913,	—	—	185

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	31	34	65
Single,	92	94	186
Widowed,	14	8	22
Totals,	137	136	273

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	29	23	52
14 to 20 years,	18	44	62
21 to 30 years,	42	38	80
31 to 40 years,	25	24	49
41 to 50 years,	11	6	17
51 to 60 years,	9	1	10
61 to 70 years,	3	—	3
Totals,	137	136	273

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	83	23	18	70	22	22	153	45	40
New England States,	8	7	10	15	8	12	23	15	22
Other States,	10	7	8	5	2	5	15	9	13
Total native,	101	37	36	90	32	39	191	69	75
Other countries: —									
Australia,	—	—	—	—	—	1	—	—	1
Austria,	—	1	—	1	—	2	1	1	2
Canada,	5	13	15	11	20	20	16	33	35
Denmark,	—	—	—	—	1	1	—	1	1
England,	—	4	—	7	8	8	7	12	8
Finland,	3	4	4	3	4	4	6	8	8
France,	—	—	—	—	—	1	—	—	1
Germany,	—	4	4	2	5	5	2	9	9
Greece,	1	1	1	—	—	—	1	1	1
Ireland,	5	31	34	5	32	25	10	63	59
Italy,	3	2	2	6	8	8	9	10	10
Norway,	1	1	1	—	—	—	1	1	1
Poland,	2	2	3	—	—	1	2	2	4
Portugal,	—	—	—	1	1	1	1	1	1
Roumania,	1	1	1	—	—	—	1	1	1
Russia,	8	8	8	7	12	10	15	20	18
Scotland,	2	3	2	—	1	2	2	4	4
Spain,	—	—	—	1	—	—	1	—	—
Sweden,	3	5	4	2	2	2	5	7	6
Syria,	—	—	—	—	1	1	—	1	1
West Indies,	1	1	1	—	—	—	1	1	1
Total foreign born,	35	81	80	46	95	92	81	176	172
Unknown,	1	19	21	—	9	5	1	28	26
Totals,	137	137	137	136	136	136	273	273	273

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Adams,	2	Kingston,	1
Allston,	1	Lancaster,	1
Athol,	1	Lenox,	1
Attleborough,	1	Lez,	1
Amherst,	3	Leeds,	1
Auburndale,	2	Leominster,	4
Baldwinsville,	2	Ludlow,	2
Barre,	1	Lynn,	4
Beachmont,	2	Marlborough,	2
Bernardston,	1	Malden,	1
Blandford,	1	Melrose,	1
Boston,	57	Middleton,	1
Brockton,	1	Mittineague,	1
Brookline,	1	Montello,	1
Cambridge,	3	Newburyport,	2
Canton,	2	Newtonville,	2
Chelsea,	7	North Easton,	1
Chicopee Falls,	1	Northampton,	7
Colrain,	1	North Adams,	3
Dorchester,	6	Orange,	1
East Northfield,	1	Orient Heights,	1
Everett,	1	Otis,	1
Farnams,	1	Oxford,	1
Fall River,	4	Palmer,	1
Fitchburg,	9	Pittsfield,	4
Florence,	1	Plymouth,	1
Foxborough,	1	Quincy,	3
Gardner,	3	Revere,	1
Great Barrington,	3	Rochdale,	1
Hatfield,	1	Roslindale,	2
Haverhill,	1	Rutland,	1
Haydenville,	1	Salem,	1
Holyoke,	8	Shutesbury,	1
Hopedale,	1	Spencer,	1
Hopkinton,	1	Somerville,	5
Indian Orchard,	1	Swansea,	1
Interlaken,	1	Springfield,	31
Jefferson,	1	Thorndike,	1

TABLE 5. — *Residence of Patients admitted* — Concluded.

PLACE.	Number.	PLACE.	Number.
Tewksbury,	1	Westfield,	1
Turners Falls,	2	Worcester,	23
Ware,	1	West Springfield,	2
Waltham,	1	Winthrop,	1
Warren,	1	Total,	273

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Artist,	1	—	1	Laborer,	3	—	3
At home,	—	1	1	Laundress,	—	1	1
Basket maker,	1	—	1	Librarian,	—	1	1
Bookkeeper,	2	1	3	Mail carrier,	1	—	1
Bootblack,	1	—	1	Mason,	2	—	2
Broom maker,	1	—	1	Messenger boy,	1	—	1
Bottler,	1	—	1	Machinist,	8	—	8
Brakeman,	1	—	1	Milliner,	—	1	1
Carpenter,	2	—	2	Mill hand,	6	—	6
Chairmaker,	2	—	2	Nurse,	—	6	—
Chauffeur,	1	—	1	Nurse girl,	—	2	2
Clerk,	14	5	19	Office girl,	—	2	2
Compositor,	1	—	1	Orderly,	2	—	2
Conductor,	1	—	1	Painter,	1	—	1
Corset maker,	—	1	1	Paper maker,	5	—	5
Coachman,	3	—	3	Pattern maker,	1	—	1
Cook,	—	1	1	Peddler,	1	—	1
Dressmaker,	—	2	2	Plumber,	1	—	1
Electrician,	1	—	1	Printer,	1	—	1
Engraver,	1	—	1	Salesman,	1	—	1
Factory hand,	1	12	13	Shoemaker,	3	2	5
Farmer,	4	—	4	School,	34	41	75
Gardener,	3	—	3	Stenographer,	—	4	4
Governess,	—	1	1	Stitcher,	—	1	1
Grocer,	1	—	1	Stone worker,	1	—	1
Housewife,	—	42	42	Tailor,	1	—	1

TABLE 6. — *Occupations — Concluded.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Teacher,	1	1	2	Waitress,	-	2	2
Teamster,	7	-	7	Ward maid,	-	1	1
Telephone operator,	-	1	1	Weaver,	2	3	5
Timekeeper,	1	-	1				

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	16	25	41
Moderately advanced,	26	33	59
Far advanced,	94	77	171
Nontuberculous,	1	1	2
Totals,	137	136	273

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Disease arrested,	27	51	78
Improved,	28	23	51
Progressive,	34	24	58
Died,	30	21	51
Nontuberculous,	1	1	2
Not considered (remained less than thirty days),	7	11	18
Totals,	127	131	258

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			SANATORIUM RESIDENCE.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	5	2	7
1 to 3 months,	—	—	—	5	8	13
3 to 6 months,	2	—	2	5	5	10
6 to 9 months,	2	2	4	5	1	6
9 months to 1 year,	—	3	3	4	1	5
1 to 2 years,	7	5	12	3	4	7
2 to 5 years,	16	7	23	3	—	3
5 to 10 years,	3	3	6	—	—	—
Over 10 years,	—	1	1	—	—	—
Totals,	30	21	51	30	21	51

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.

RESIDENT MEDICAL OFFICERS.

ELLIOTT WASHBURN, M.D.,	.	.	<i>Superintendent.</i>
JAMES A. LYON, M.D.,	.	.	<i>Assistant Superintendent and Physician.</i>
WILLARD B. HOWES, M.D.,	.	.	<i>Physician.</i>
OLIN S. PETTINGILL, M.D.,	.	.	<i>Physician.</i>
RUDOLPH ERTISCHEK,	.	.	<i>Bacteriologist.</i>

SARAH CRAWFORD,	.	.	.	<i>Superintendent of Nurses and Dietitian.</i>
CHARLES E. CARROLL,	.	.	.	<i>Steward.</i>
WALTER C. BROWN,	.	.	.	<i>Chief Engineer.</i>
FREDERICK H. DRURY,	.	.	.	<i>Farmer.</i>
HELEN M. POND,	.	.	.	<i>Assistant Dietitian.</i>

REPORT OF THE SUPERINTENDENT.

The Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:— Herewith is presented the annual report of the Rutland State Sanatorium for the year ending Nov. 30, 1913.

The year's work has not to any especial degree differed from that of previous years. During the summer Dr. P. Challis Bartlett resigned as superintendent and his successor assumed the office on September 29. Dr. Bartlett served in this capacity from June, 1910.

On the night of March 17 a fire, at first of threatening proportions, occurred in the engine room. By prompt action it was soon extinguished at a property loss of approximately \$5,000. What the results might have been if one of our boisterous "Rutland winds" had prevailed, we have hardly allowed ourselves to think.

PATIENTS.

The daily average of patients in the sanatorium was 348, which was 2 more than in any year in its history. The admissions were 449 and the discharges 438. The classification of the patients admitted, as recorded by the physicians who signed their application blanks, differed somewhat widely from the classification as recorded by our medical staff upon the admission of the patients, although the standard of classification is supposed to be the same. A certain amount of this variance, to be sure, may be explained by the wait between application and admission, ranging as it does between three and eight weeks, according to the length of our waiting list; but this alone is insufficient to account for the rather wide difference as shown by the following table, nor is it a probable explanation of the very wide difference in those cases, occasionally admitted, whose applications stated that they were incipient and favorable

cases and who, when admitted here four or five weeks later, were found to be far advanced and very unfavorable and, rarely, almost "in extremis."

Patients admitted Dec. 1, 1912, to Nov. 30, 1913.

	Classifica- tion on Application Blanks.	Classifica- tion on Admission.
Incipient,	273	161
Moderately advanced,	169	212
Far advanced,	6	63
Unclassified,	1	7
Nontubercular,	-	6
	449	449

Our classification shows that 35.86 per cent. were incipient on admission, 47.22 per cent. were moderately advanced, 14.03 per cent. were far advanced, 1.56 per cent. were not classified immediately upon admission, and 1.33 per cent. were considered to be nontubercular.

The average length of stay of discharged patients who were in the sanatorium long enough to be "considered" on our records, that is at least one month, was eight months and fourteen days, an increase of twenty-seven days per patient more than last year. The average ages of all patients admitted was twenty-eight years, three months and ten days,—of males, twenty-nine years, six months and eight days; of females, twenty-seven years and twelve days. The average age was practically eight months older than the previous year. The average gain in weight of discharged patients was 8.46 pounds, as against 11 pounds in 1912; the average increase for men, 8.19 pounds; for women, 8.73 pounds; largest individual gain in a man, 49 pounds; in a woman, 40 pounds. The usual special reports and statistical tables in regard to patients are appended to this report.

EXPENSE OF OPERATING.

The treasurer's report shows the income and expense account for the year. The total expenditures were \$188,076.55, an increase of \$4,685.39 over the previous year. This increase is due

in part to the increase in the price of milk, in part to the extra amount paid for religious services, but the larger part of it is due to increased expenditures in the item of meats. Your superintendent believes that it is possible to materially decrease this item by a change in the dietary. Commencing on Jan. 1, 1914, the dietitian will have sole charge of the "tray" or bed patients, while the steward will have charge of the dietary of the main dining hall. The dietitian will devote considerable time to teaching patients and nurses. If a practical plan can be evolved whereby all the sick or bed patients can be concentrated at one end of the sanatorium, it will materially decrease the expense of providing food for these patients, as well as improving their service. These changes it is expected will result in increased efficiency and decreased cost.

MEDICAL SERVICE.

No especial changes in our medical routine have been inaugurated. A résumé of our routine and special treatments, the reports of the dietitian and of the bacteriologist form a part of this report.

REPAIRS AND IMPROVEMENTS.

The new horse barn has been completed and is in use. The work of replacing the akron pipe of our sewer line with iron pipe has been completed. The repairs upon our road have been completed.

NEEDS.

There is urgent need of an electric clock system by which the movements of our night watchman may be recorded.

The hennery again shows a deficit. This is an annual occurrence and is due, first, to the poor location of the poultry houses on barren and stony soil and, second, to the nature of their construction. We have available a splendid location on our own land, and at a relatively small expense new and proper henhouses may be built. If new houses are built upon the available plat of ground, it appears that the hennery should be at least self-supporting. Our poultry man is efficient, but he is much handicapped in his efforts by inefficient equipment.

The old barn in front of the sanatorium is a fire risk. The lumber in the projections could be utilized in repair work on

other buildings, and the main portion, moved away, would make a much needed barn for winter storage.

The matter of a water supply wholly under the control of the sanatorium, instead of as now controlled by the town of Rutland, in order that at all times a safe, sure and adequate supply of water for domestic and fire purposes may be assured, involves the question of either installing an independent supply and service or of buying the present service of the town and selling water therefrom to the town. This is rather a matter for your honorable Board than for your superintendent.

CONCLUSION.

Many friends of the sanatorium have our sincere and grateful appreciation of many gifts and deeds in behalf of patients. My own appreciation of the conscientious work of the members of the medical staff and of the officers and employees must be here recorded.

Finally, I desire to acknowledge the support of the trustees during the year, without which your superintendent cannot hope to maintain his institution efficiently and harmoniously.

Very respectfully submitted,

ELLIOTT WASHBURN,
Superintendent.

RUTLAND, Dec. 1, 1913.

THE TREATMENT OF TUBERCULOSIS AS CARRIED OUT AT RUTLAND STATE SANATORIUM.

A simple résumé of the treatment of tuberculosis as carried out at the Rutland State Sanatorium will undoubtedly be of sufficient interest to the medical profession to warrant its publication. It is practical to consider the subject under a few headings: —

1. Procedure on Admission of Patient.
2. Routine Initial and Subsequent Treatments.
3. Special Treatments.

1. PROCEDURE ON ADMISSION OF PATIENT.

With a few exceptions on account of marked illness of the patient at the time of admission, all new patients are subjected to a complete examination at the time of admission, within twenty-four hours after entering the sanatorium. This examination includes a comprehensive and searching investigation of the family, previous and present histories of the patient, and a careful, thorough examination of his present physical condition. The information thus obtained is carefully recorded upon special blanks for that purpose.

(a) *Family History.* — Facts are obtained in regard to the previous and present conditions of father, mother, brothers, sisters, other relatives, consort, children and other members of the family and household with especial reference to tuberculosis.

(b) *Previous History.* — As a child: What diseases of childhood? Entered school at what age? Left school at what age? Why?

Since leaving school what occupations pursued (stating definitely and as exactly as possible the trade or industry pursued and the exact process or part of the work done and the length of time employed at each process, as, for example,

weaving in the cotton industry, ten years; or "bench" work in the jewelry industry, three years; or ironing in a laundry, four years; or molding in the iron industry, sixteen years, etc.)? What unhygienic influence in the occupation to which patient was exposed (as dust, fumes, bad ventilation, etc.)? Gave up work when? Why?

How long married? Tuberculosis in consort's family? Has patient associated or been thrown in contact with tuberculosis at home? At work? Elsewhere?

Conditions of home life: How many in family? Nature of dwelling? Bedroom, how ventilated? Windows kept open? Sleep alone? Average number of hours sleep? Of work? In open air? How employed when not at work? How much and what exercise daily?

What previous diseases? Typhoid? Malaria? Grippe? Tonsillitis? Enlarged glands? Nasal trouble? Throat trouble? Pneumonia? Pleurisy? Rheumatism? Venereal? Genito-urinary? Gynæcological? Obstetric? Nervous? Mental? Convulsions?

Habits as to alcohol, tobacco, drugs, medicines. Any history of infections? Operations? Any other disease?

(c) *Present Illness*. — Any history of exposure to tubercular infection? First presumable symptom of disease? First demonstrated evidence of disease? Nature of onset? Cough?

Symptoms before admission: cough, expectoration, pain, tenderness, dyspnœa, hæmoptysis, chills, fever, night sweats, loss of strength, loss of appetite, hoarseness, stomach, bowels, hæmorrhoids, fistula. How much loss of weight? Confined to bed? Stopped work when? Previous treatment?

(d) *Present Condition*. — Symptoms on admission: cough, strength, bowels, chills, night sweats, expectoration, appetite, sleep, pain, throat, dyspnœa, digestion, menstruation, genito-urinary, temperature, pulse. General condition.

(e) *First Physical Examination*. — This is conducted in a small room in which are the physician, nurse and patient only. For this examination absolute quiet is necessary. The temperature of the room is at about 74 degrees. All clothing is removed from the upper portion of the patient's body, and the examination is conducted with the entire chest bare. Subse-

quent examinations are conducted in the same place, unless bed patients, and in the same manner.

The patient is weighed. Consideration is given to his general appearance and size-up; his nourishment; his attitude; the color of skin, lips and mucous membranes; condition of skin, hair, teeth, pupils, ears, complexion; the neck, — its dimensions, pulsation, enlarged glands; the fingers, — clubbed or cyanosed.

Not as a routine but occasionally the blood pressure is determined.

In every instance the nares, pharynx and larynx are carefully and thoroughly examined.

The height is measured and recorded.

The thorax is viewed as to its mobility and symmetry, after which a most careful examination is made of the pulmonary condition by percussion and auscultation. The results are noted upon skeleton charts of the thorax.

The heart is examined and also the abdomen.

(f) *Classification.* — Taking into consideration all the factors and data obtained by all of these procedures the case is classified as follows: —

Incipient: Slight or no constitutional symptoms, including particularly gastric or intestinal disturbance or rapid loss of weight. Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent. Slight infiltration limited to the apex of one or both lungs or a small part of one lobe. No tuberculous complications as of throat or intestines.

Moderately advanced: No marked impairment of function either local or constitutional. Localized consolidation, moderate in extent, with little or no evidence of cavity formation; or infiltration more extensive than under incipient. No serious complications.

Far advanced: Marked impairment of function, local and constitutional. Marked consolidation of an entire lobe. Or disseminated areas of beginning formation. Or serious complications as of throat or peritoneum.

It is, of course, obvious that all of the data necessary to make the above classification cannot be obtained immediately upon

entrance. It is, however, possible to obtain sufficient of them to make a tentative classification very soon after admission, within three or four days, for example.

2. ROUTINE INITIAL AND SUBSEQUENT TREATMENT.

After admission the patient is placed under observation in the receiving ward, and his treatment is carried out in accordance with the stage of his disease and any peculiar or individual symptoms presented by his case. He is put to bed and kept there until sufficient observations have been made to justify allowing him to be up and about.

Sputum. — The sputum of every patient is examined immediately upon admission of the patient. If found positive at the first examination, it is regularly re-examined once in every two months. If, however, at the first examination it is found negative, it is re-examined on three successive days, then, if still found negative, in about six weeks, and then, subsequently, every two months. If a sputum found negative at several examinations shows positive, then several examinations on successive days are made to check up the positive result. The carbol-fuchsin method is employed, and the Gaffki system of counting. Considerable work has also been done with the anti-formin method in cases persistently negative, but as yet the value of this method has not been determined.

Urine. — The urine of every patient is examined as a matter of routine, upon admission, and thereafter when it is deemed expedient.

Blood. — Examinations of the blood are not made as a matter of routine in every case but as the occasion appears to demand, as, for example, where the count would be of clinical value in the diagnosis of complications or in the determination of anæmia, etc.

Throat. — A careful examination of the throat, in the well-appointed throat room, is made in every instance upon admission of the patient and, subsequently, whenever it is required by the symptoms. Once, every month, the consulting laryngologist conducts a clinic on cases about which there is a doubt as to diagnosis and treatment. The treatment of throat cases is detailed below.

Bed and Rest. — Upon admission all patients are put in bed until, as stated above, sufficient examinations have determined their exact condition. The general rule is for new and old patients to go to bed if their temperature exceeds 99.6 degrees, or the pulse above 100, if there exist any hæmoptysis, in case the patient develops an acute cold, or a loss of weight with increased cough and elevation of temperature, or if any complication arises.

Every patient, without exception, must observe the "rest hour" between 1.30 and 2.30 P.M. every day, during which he must lie upon his bed and do nothing, even reading being advised against. Patients must not rise earlier than 6.30 o'clock in the morning, and must retire at 9 o'clock in the evening.

Exercise. — With this sanatorium, exercise usually means walking. The custom is to allow no exercise the first week of admission. During this week patients able to be out of bed recline in chairs on the verandas. Then exercise is commenced and regulated according to physical condition, range of temperature and pulse, and gain or loss of weight. It is graduated according to the individual patient, commencing with fifteen minutes and slowly working up to one, two or three hours as the case warrants. The hours for exercise are between 10 and 12, and 3 and 5 o'clock.

Every patient is provided with a little card, as follows: —

RULES FOR EXERCISE.

Exercise means walking. Special permission must be obtained before indulging in other forms of exercise.

None for one week, then ask about it.

None if feverish.

None if blood in sputum.

None if loss of weight.

None if fast pulse.

Never get out of breath.

Never get tired.

Never run.

Never lift heavy weights.

Go slow.

Exercise regularly and symmetrically whether rain or shine.

Walk uphill at start, so as to come downhill on return.

Remember always that you will have to return.

Rest one-half hour before and after meals.

Diet. — The aim is to provide for the patient a well-balanced diet, which should provide between 3,500 and 4,000 calories per day. The experience at this sanatorium has been, however, that patients well enough to go to the main dining hall are not satisfied with this allowance; they feel, and so express themselves, that they are being stinted in their diet and have, on occasion, protested so vigorously that this maximum limit is not now adhered to. That is to say, in order to preserve contentment in the sanatorium household, it is necessary to allow more than the amount which from a scientific standpoint appears best suited to the needs of the patients. A number are not suited with less than 5,000 calories per day. The dietaries used here show, therefore, a rather high protein diet. The patients demand meat at practically every meal. For the bed or "tray" patients there are provided the "light and infirmity diets." Special diets are provided for special cases. In addition to the three regular meals per day lunches are provided at 10 o'clock in the morning, 3 o'clock in the afternoon, and for bed patients at bedtime. These lunches consist of milk, cocoa and malted milk, and raw eggs when specially ordered in special cases. Samples of the "house diet" and of the "light and infirmity diets" for two days, chosen at random, are here given with the dates on which they were served: —

HOUSE DIET.

Saturday, December 12.

Breakfast. — Cut oatmeal, broiled pork chops, boiled potatoes, graham muffins.

Dinner. — Paesane soup, beef loaf, hollandaise potatoes, creamed carrots, baked Indian pudding.

Supper. — Farina, baked beans, ketchup, raisin brown bread, cold meat to order, peaches, cocoa.

Thursday, December 18.

Breakfast. — Rolled oats, sausage cakes, apple sauce, cream toast, Sally Lunn.

Dinner. — Clear soup, roast rib of beef, brown gravy, mashed potatoes, string beans, Norwegian prune pudding, cream.

Supper. — Hominy grits, corned beef hash, pickles, small Parker House rolls, cranberry sauce.

LIGHT AND INFIRMARY DIETS.

*Monday, December 15.**Breakfast.* — Rice, creamed chipped beef, baked potatoes, rye muffins.*Dinner.* — Cream of corn soup, broiled sirloin steak, mashed potatoes, steamed squash, pineapple jelly, custard sauce.*Supper.* — Dry cereal, cold chicken, currant jelly, creamed peas, sponge cake.*Wednesday, December 17.**Breakfast.* — Pettijohn's, omelet, creamed potatoes, corn muffins.*Dinner.* — Cream of bean soup, broiled lamb chops, baked sweet potatoes, buttered beets, baked custard, whipped cream.*Supper.* — Dry cereal, cold beef sliced thin, macaroni with cheese, baked apples, white fruit cake.

Special diets as prescribed by physicians. Milk served with all meals. Cereal coffee served with breakfast. Cocoa served with supper. Choice of boiled eggs or cold meats, for Jewish people only, when pork is served. Lunches of raw eggs, milk, cocoa, malted milk served at 10 A.M. and 3 P.M. daily.

Patients are given regular or "house diet" or mixed diet unless contraindicated by complications. Raw eggs and olive oil to patients who are steadily losing. For such complications as enteritis with diarrhœa, the "diarrhœa diet" is served. This does not differ from any ordinary diarrhœa diet. A glance at the sample menus given above will substantiate the statement that the diet is over high in proteids. And yet our experience is that the patients complain bitterly unless meats and potatoes are served in abundance; so that our efforts at serving a diet approximating scientific correctness are set aside for expediency. It is a very serious question whether the patients can assimilate so hearty a diet. Often they are extremely finicky as to their food. May not this well be because they are overfed?

Work. — We are not allowed to pay patients for working. Often patients resent being asked to do even very small amounts of work, and express the opinion that they must not be expected to work, unless paid. Those who are willing to work do general light work in the care of the sanatorium, such as sweeping, dusting, care of the beds, clerical work for the physicians, mending, in the laundry, general housework about the wards, etc. Patients whose disease is inactive are supposed

to do from one-half to two hours work per day. The amount is regulated, naturally, by their physical condition. At best, however, it is without doubt true that prolonged life in the sanatorium unfits the patients for active bread winning when they return to their homes, — at least for a time, at all events. It is to be regretted that we are not allowed to carry out the plan followed at the large sanatorium of the city of New York at Otisville, where work is made a part of the treatment; all patients who are able are obliged to work; before they go to the sanatorium they are told that they must work when able; and they are paid from \$10 to \$15 per month for their work, which often enables them to stay at the sanatorium longer than they otherwise could, as they are able to send the money back to their families.

Medicines. — Few medicines are used. Small doses of heroin or codeia for cough sufficient to prevent sleep. Small doses of atropia for excessive sweating at nighttime. Small doses of veronal for insomnia when necessary. For hæmoptysis, recumbent position, reduced intake of fluids, ice bag to præcordium, heroin, codeine, morphine, occasionally, the nitrites.

Weights. — All patients able to be out of bed are weighed every week.

From all this it will be seen that in ordinary cases the treatment consists of plenty of rest, plenty of fresh air, mild exercise, a moderate amount of work, few medicines and an abundant diet rather rich in proteids.

3. SPECIAL TREATMENTS.

(a) *Throats.* — In the course of the year a considerable number of cases of pharyngitis, laryngitis and tracheitis in our patients are treated in the throat room. A detailed account of this work is in preparation under the direction of the consulting laryngologist. Suffice it to say here that some of these cases are tuberculous and many are nontuberculous. In the undoubted tuberculous cases careful attention to the patient's general condition appears to insure greater improvement of the local throat and larynx condition than local medication. Active local treatment at times appears to do distinct local damage. Mild applications of cleansing solutions, of which Dobell's

solution has worked best with us, and the use of mild, non-irritating sprays have given the best results. Applications of solutions of lactic acid, or of formalin, 1 per cent., gradually increased in strength, have benefited some cases. In others, the use of tuberculin has been followed by improved condition of the larynx. Oily sprays of camphor-menthol have been found useful, and Lake's mixture, — the formula for which is as follows: formalin, 7 parts, carbolic acid (90 per cent.) 10 parts, lactic acid (50 per cent. solution) 50 parts, water to 100 parts, — has been beneficial as a topical application, twice weekly, in some cases.

In those cases, with us rarely seen, in which excruciating pain occurs as a part of laryngeal involvement, in a few instances injections of 50 per cent. alcohol in the region of the superior laryngeal nerve have given considerable relief for the time being.

(b) *Tuberculin and Vaccines.* — In sluggish and chronic cases, in suitable cases which have not responded to the routine sanatorium treatment after a few months' residence, in febrile cases with few pulmonary signs, in chronic fibroid phthisis, in cases of tuberculous adenitis, cases of fistula in ano, cases of ischiorectal abscess, and in some cases of laryngeal involvement, the use of tuberculin has been followed with considerable benefit in a portion of the cases while in others little or no improvement has followed its use. The initial dose is somewhat regulated by the reaction to the Von Pirquet test for tuberculosis. As a rule, the initial dose is one one-millionth milligram. This dose is gradually increased, the increase in the size of the dose varying with different patients. The injections are made in the back or in the upper arm, or forearm. A method of technique used here is to wipe the rubber cap of the tuberculin bottle with lysol. The syringe needle, sterilized, is thrust through the cap and the syringe filled. The site of the injection is covered with one drop of lysol, through which the needle is passed in making the injection. No abscesses have followed this method. In the Aug. 1, 1912 number of the "Boston Medical and Surgical Journal" appears an article upon results obtained from the use of tuberculin, by Dr. James A. Lyon, assistant physician at this sanatorium.

Autogenous vaccines, prepared in our own laboratory, have been given with benefit in some cases, little or none in others, where secondary organisms were found to be very numerous in the sputum, also in middle ear disease with otorrhœa. Stock vaccines of *B. coli* have been found useful in some of our cases of ischiorectal abscess.

(c) *Artificial Pneumothorax*. — Briefly, the theory of this treatment is putting the lung at rest by forcing gas into the pleural cavity. The gas used is nitrogen gas. The real value of the procedure is still under debate. One member of the staff reports some excellent results, another inclines to the belief that it has a very limited field of usefulness and thinks that the same results may be obtained by "typhoid rest" with less risk to the patient. A somewhat exhaustive report upon a considerable number of cases treated by the method is soon to appear. The member of the staff who has done the most of the work, and thinks that there is something in it, applies it in moderately advanced and far advanced cases, progressive, or those that have not improved, or which experience has proved will not improve under the usual sanatorium treatment. All hæmorrhage cases are suitable. Cases which have active processes in both lungs are unsuitable. Unilateral cases are the best, but bilateral cases may be given the treatment if one lung is inactive and has been so for a number of months or years. Rapidly advancing cases are unsuitable, as in these cases the treatment beyond any doubt will hasten death.

Technique: A suitable place to make the puncture is determined by percussion and auscultation. The skin is sterilized with benzine and tincture of iodine. The skin anæsthetized by subcutaneous injection of novocaine. The needle is introduced and if in the pleural cavity, as indicated by the apparatus, the nitrogen gas is introduced. The amount introduced at the initial treatment varies from 200 to 600 cubic centimeters, and is determined by the conduct of the patient as to pain or any untoward symptoms, as dyspnœa, faintness or impending collapse. To obtain and maintain a complete collapse of the lung, the treatment should be repeated often and should be kept up for at least one year. The majority of the patients on

whom this treatment has been used have borne it very well; others, on the other hand, have not done well under it. In a very few cases it was not repeated because of rather distressing symptoms at the time of injection. As the results of this treatment at this sanatorium are about to be published they will not be anticipated here.

Here is presented, in as complete form as the space permitted for this paper allows, a general statement of the ordinary and special treatment of tuberculosis as carried out at this sanatorium. In anticipation of the following question: When do we consider a case "arrested?" it is here answered.

The standard adopted in deciding this question is that adopted by the National Association for the Study and Prevention of Tuberculosis, which is as follows (this is also the standard of the American Sanatorium Association): —

Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs stationary or retrogressive; the foregoing conditions to have existed for at least two months. (The length of time is, of course, somewhat arbitrary, but is intended to cover the cases, which frequently occur, where the patients leave the sanatorium for various reasons, contrary to advice, after a stay of a few weeks, although all active symptoms may have ceased completely soon after entrance.)

LABORATORY REPORT.

The following is a report on the work done in the laboratory during the year 1912-13.

The routine work consisted chiefly in the examination of sputum and urine, sputum being examined on an average once in six weeks. Sputum negative to tuberculosis on first examination would be examined on three consecutive occasions and then, whether positive or negative, would be examined in its turn, that is once in six or eight weeks. Lately, the anti-formin method of sputum digestion has been employed on sputum continuously negative to tuberculosis; so far it has not brought up the percentage of positive sputum. In two cases, where the antiformin showed positive sputum, tuberculosis was demonstrable by the regular routine method.

SPUTA EXAMINATIONS.

Routine Work.

Table No. 1.—Total number of examinations, 3,230; negative, 2,165, or 67.02 per cent.; positive, 1,065, or 32.97 per cent.

Table No. 2.—Total number of patients examined for tuberculosis in sputum, 703; positive at some time or other during their stay, 388, or 55.19 per cent.; negative all the time, 264, or 37.55 per cent.; no sputum, 51, or 7.25 per cent. Anti-formin, 99 examinations.

During the year 40 specimens of sputum have been sent in by out-patients to be examined for tuberculosis.

Outside Work.

Total number of examinations, 40; negative, 25, or 62.50 per cent.; positive, 15, or 37.50 per cent.

Urine analyses performed,	944
Blood counts made,	7
Feces examinations made,	3
Autogenous vaccines prepared,	16

There were 16 milk and cream analyses.

Forty-six guinea pigs, 20 rabbits and 1 mouse were inoculated for the study of the tubercle bacillus and other bacteria.

During the year work has been done on secondary organisms in the sputum, and study has been made upon a streptothrix isolated from sputum of several patients. This latter work is being continued.

RUDOLPH ERTISCHEK,

Bacteriologist.

REPORT OF THE DIETITIAN.

To the Superintendent of the Rutland State Sanatorium.

I submit the following report of work done in dietetics from July 5, 1912, to Nov. 1, 1913.

The workings of this department are many and varied, and while we have improved our service in many ways, we still have a great problem to meet before our results will be all we could expect. Our tray service is a very difficult one to handle, as our patients are scattered from one end of the house to the other. We have two kitchens, — center diet kitchen and “L” diet kitchen.

“L” diet kitchen, which we have occupied since Jan. 1, 1913, is in the basement under L annex. It has not proved satisfactory from the working point of view, but could be made so with some added expense and a few changes. From here, we serve the upper and lower infirmary, wards D and L. We tried serving C and G from this kitchen, but found it very unsatisfactory on account of the great distance from the source of supply. Practically all the food is brought from the main kitchen across the dooryard to the center diet kitchen, put on the truck, and taken to the L annex serving room, where it is put on the elevator and sent down to the kitchen. There we reheat all the food on the range and the steam table. The trays are then set up and sent on the elevator to the serving room, where boys take the trays to the patients. This is a very unsatisfactory method, both from the efficiency and the economic standpoint, as it necessitates so much handling of the food.

When it has been possible, we have had a nurse in this kitchen to take care of our special diets, such as liquid diet,

liquid and soft, diarrhœa diet, rheumatic, anti-acid, diabetic, etc. She has also served the trays.

From the center diet kitchen we serve all of the west side of the house and wards C, G and F on the east side. Our food is brought from the main kitchen, put on the steam table and the stove, reheated, and sent out on the trays. It has been difficult to always get satisfactory results from here, as in sending the tray to wards A, lower M, and upper M, because the distance is easily 400 feet. Food carried on the trays will, of course, be cold by the time it is gotten to the patient. Our average number of trays have been from center diet kitchen, breakfast, 62, dinner, 50, supper, 56; from "L" diet kitchen, breakfast, 44, dinner, 39, supper, 40; making a total average of breakfast, 106, dinner, 89, supper, 90. We have also served a great many diets for special diseases, such as rheumatism; duodenal and gastric ulcer; gastritis, acute and chronic; enteritis, catarrhal and ulcerative; nephritis.

With the low wage we give, it is impossible to get intelligent English-speaking girls to work in our kitchens; therefore, we have to put up with green foreign help, which is not a satisfactory working force for diet kitchens. In center diet kitchen we employ four girls and one boy, while in "L" diet kitchen two girls and two boys, with one extra girl in both kitchens who works half days.

Our house and light diets are made out for one week ahead of time. Then we have liquid diets and liquid and soft diets for special cases, which are prescribed by the physician. A variety for these diets is made out daily. A typical menu for patients on liquid and soft diet for one day is as follows: —

Breakfast. — Fruit, cooked cereal, dropped egg on toast, dry toast, milk, coffee and raw egg.

Dinner. — Beef broth, wafers, broiled chicken, mashed potatoes, dry toast, custard, raw egg, beef juice, milk.

Supper. — Cooked cereal, chicken broth, cream toast, fruit sauce, cocoa, milk, raw egg, dry toast.

The work in dietetics given to the nurses started in October, 1912. Theory and practice alternated; periods given one and one-half hours in practice with one hour in theory per week.

As it was the first year, classes given were made the same for both seniors and juniors. The course was comprised of thirty-eight lessons. The following outline was given:—

Food: definition; classification.

Organic:—

Nitrogenous proteins: meat, fish, eggs, milk.

Non-nitrogenous carbohydrates: vegetable foods, potatoes, cereals, legumes, green vegetables.

Fats: cream, butter, olive oil.

Inorganic:—

Mineral matter:—

Water: source, function, varieties.

Salts.

DIETS IN RELATION TO DISEASE.

We use "Practical Dietetics with Reference to Diets and Disease," by Alida Pattee, as a textbook. The nurses are required to serve one month in the diet kitchens during their two years of training.

In July, 1913, lectures were started for the patients. There were thirty-six in this class, and a course of ten lessons was given, as follows:—

- | | |
|-------------------|-----------------------|
| 1. Eggs. | 6. Meats continued. |
| 2. Milk and eggs. | 7. Vegetables. |
| 3. Soups. | 8. Green vegetables. |
| Cream soups. | Salads and dressings. |
| Meat soups. | 9. Simple desserts. |
| 4. Cereal foods. | 10. Leftovers. |
| Fruits. | Care of foods. |
| 5. Meats. | Balanced dietaries. |

* Simple and nourishing foods were demonstrated and practical points in the preparation of each were brought out.

PROPOSED PLAN OF WORK.

This plan hinges upon the centralization of sick patients near "L" diet kitchen. We would then move our serving room to the first-floor room in L annex, from which all trays would be served, dishes washed, and trays set up. By hiring a cook who would cook practically all food for the tray patients in the present kitchen, we would be prepared to take care

satisfactorily of over three-fourths of our patients; the other fourth, who will probably be in bed for only a few days at a time, could be served from a small serving room on the west side of the house. This would mean a saving of service, and would be more economical than running the two kitchens as we are now.

Respectfully submitted,

HELEN V. POND,

Assistant Dietitian.

Nov. 1, 1913.

REPORT OF THE TREASURER.

To the Trustees of Massachusetts Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1913: —

CASH ACCOUNT.	
Balance Dec. 1, 1912,	\$3,960 32
<i>Receipts.</i>	
<i>Institution Receipts.</i>	
Board of inmates: —	
Private,	\$15,074 42
Cities and towns,	21,620 32
Other reimbursements, charitable (collected by State Treasurer),	302 26
	<u>\$36,997 00</u>
Sales: —	
Food,	\$1,014 36
Clothing and materials,	37 25
Miscellaneous,	519 21
Farm, stable and grounds: —	
Cows and calves,	\$323 00
Pigs and hogs,	2,442 15
Sundries,	5 40
	<u>2,770 55</u>
	<u>4,341 37</u>
Miscellaneous receipts: —	
Interest on bank balances,	\$137 22
Sundries,	191 44
	<u>328 66</u>
	<u>41,667 03</u>
<i>Receipts from Treasury of Commonwealth.</i>	
Maintenance appropriations: —	
Balance of 1912,	\$687 98
1912 deficiency,	3,391 16
Advance money (amount on hand November 30),	10,000 00
Approved schedules of 1913,	\$172,802 25
Less returned,	13 30
	<u>172,788 95</u>
	<u>186,868 09</u>
Special appropriations,	9,457 05
	<u>\$241,952 49</u>
Total,	

Payments.

To treasury of Commonwealth, institution receipts,		\$41,667 03	
Maintenance appropriations: —			
Balance November schedule, 1912 (including 1912 deficiency),	\$8,047 71		
Eleven months schedules, 1913,	172,788 95		
November advances,	5,879 68		
			186,716 34
Special appropriations: —			
Approved schedules,	\$9,457 05		
Less advances, last year's report,	8 25		
		\$9,448 80	
November advances,		183 96	
			9,632 76
Balance Nov. 30, 1913: —			
In bank,	\$2,611 47		
In office,	1,324 89		
			3,936 36
Total,			\$241,952 49

MAINTENANCE.

Appropriation,	\$183,000 00	
Transferred from extraordinary expenses,	5,076 55	
		\$188,076 55
Expenses (as analyzed below),		188,076 55
Balance reverting to treasury of Commonwealth,		—

Analysis of Expenses.

Salaries, wages and labor: —		
Elliott Washburn, superintendent,	\$430 55	
P. Challis Bartlett, superintendent,	2,069 45	
General administration,	40,765 05	
Medical service,	3,769 02	
Ward service (male),	1,550 59	
Ward service (female),	7,679 86	
Repairs and improvements,	2,904 21	
Farm, stable and grounds,	7,947 35	
		\$67,116 08
Food: —		
Butter,	\$5,961 66	
Butterine,	173 51	
Beans,	175 05	
Bread and crackers,	110 68	
Cereals, rice, meal, etc.,	595 53	
Cheese,	240 63	
Eggs,	7,781 01	
Flour,	2,316 14	
Fish,	2,127 58	
Fruit (dried and fresh),	3,724 53	
Meats,	35,034 83	
Milk,	9,656 20	
Molasses and syrup,	38 19	
Amounts carried forward,	\$67,935 54	\$67,116 08

<i>Amounts brought forward,</i>	\$67,935 54	\$67,116 08
Food — <i>Con.</i>		
Spices, seasonings, salt, etc.,	499 29	
Sugar,	1,849 82	
Tea, coffee, broma and cocoa,	1,242 99	
Vegetables,	4,504 09	
Yeast,	104 50	
Sundries,	342 03	
	<hr/>	76,478 26
Clothing and materials: —		
Boots, shoes and rubbers,	\$38 60	
Clothing,	130 80	
Dry goods for clothing and small wares,	12	
Hats and caps,	1 25	
Sundries,	75	
	<hr/>	171 52
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,505 96	
Brushes, brooms,	312 51	
Carpets, rugs, etc.,	226 64	
Crockery, glassware, cutlery, etc.,	751 83	
Furniture and upholstery,	393 53	
Kitchen furnishings,	414 45	
Wooden ware, buckets, pails, etc.,	99 03	
Sundries,	275 79	
	<hr/>	3,979 74
Heat, light and power: —		
Coal,	\$12,800 11	
Freight on coal, teaming coal,	1,558 19	
Oil,	170 59	
Sundries,	222 35	
	<hr/>	14,751 24
Repairs and improvements: —		
Brick,	\$22 50	
Cement, lime and plaster,	52 30	
Doors, sashes, etc.,	16 15	
Electrical work and supplies,	594 02	
Hardware,	252 25	
Lumber,	234 88	
Machines (detached),	149 24	
Paints, oil, glass, etc.,	635 00	
Plumbing, steam fitting and supplies,	577 84	
Roofing and materials,	103 01	
Sundries,	582 08	
	<hr/>	3,219 27
Farm, stable and grounds: —		
Blacksmith and supplies,	\$156 80	
Carriages, wagons, etc., and repairs,	125 43	
Fertilizers, vines, seeds, etc.,	883 19	
Hay, grain, etc.,	5,177 46	
Harnesses and repairs,	36 12	
Other live stock,	941 55	
Tools, farm machines, etc.,	86 67	
Sundries,	1,309 87	
	<hr/>	8,717 09
Religious services,		1,005 50
<i>Amount carried forward,</i>		\$175,438 70

Amount brought forward, \$175,438 70

Miscellaneous:—

Books, periodicals, etc.,	\$102 77	
Cuspidor supplies,	706 44	
Entertainments,	65 50	
Freight, expressage and transportation,	960 68	
Funeral expenses,	20 00	
Hose, etc.,	34 30	
Medicines and hospital supplies,	2,715 26	
Medical attendance, nurses, etc. (extra),	30 00	
Postage,	709 08	
Printing and printing supplies,	501 12	
Soap and laundry supplies,	1,088 96	
Stationery and office supplies,	781 82	
Travel and expenses (officials),	291 69	
Telephone and telegraph,	878 25	
Tobacco,	5 00	
Water,	2,650 61	
Sundries,	1,096 37	
		<hr/>
		12,637 85
Total expenses for maintenance,		\$188,076 55

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1912,	\$8,883 24
Appropriations for fiscal year,	5,222 01
	<hr/>
Total,	\$14,105 25
Expended during the year (see statement annexed),	\$9,457 05
Reverting to treasury of Commonwealth,	27 39
	<hr/>
	9,484 44
Balance Nov. 30, 1913,	\$4,620 81

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$3,936 36	
November cash vouchers (paid from advance money):—		
Account of maintenance,	\$5,879 68	
Account of special appropriations,	183 96	
	<hr/>	6,063 64
Due from treasury of Commonwealth, account of November, 1913, schedule,	211 05	
	<hr/>	\$10,211 05

Liabilities.

Schedule of November bills,	\$10,211 05
Deficit,	5,076 55
	<hr/>
	\$15,287 60

PER CAPITA.

During the year the average number of inmates has been 348.

Total cost for maintenance, \$188,076.55.

Equal to a weekly per capita cost of \$10.36+.

Receipt from sales, \$4,341.37.

Equal to a weekly per capita of \$0.2387+.

All other institution receipts, \$37,325.66.

Equal to a weekly per capita of \$2.056+.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Iron pipe,	Acts 1911, chap. 105	\$1,975 00	\$288 13	\$1,956 44	\$18 56 ¹
Infirmery,	Acts 1911, chap. 105	865 00	122 00	863 32	1 68 ¹
Stable for horses,	Acts 1912, chap. 88	8,950 00	7,558 69	8,950 00	-
Road,	Acts 1912, chap. 88	1,400 00	282 16	1,038 18	361 82
Carpenter shop,	Acts 1912, chap. 88	300 00	243 05	292 85	7 15 ¹
Repairs, 1913,	Acts 1913, chap. 119	5,222 01	963 02	963 02	4,258 99
		\$18,712 01	\$9,457 05	\$14,063 81	\$4,620 81

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

ELLIOTT WASHBURN, M.D.,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,
Assistant Supervisor of Accounts.

VALUATION.

INVENTORY.

Land.

Ground and building sites, 12 acres, .	\$6,000 00	
Woodland, 88 acres,	2,816 00	
Mowing, 77 acres,	7,700 00	
Tillage, 59 acres,	5,900 00	
Pasture, 108 acres,	2,160 00	
Roads and sewerage system,	20,500 00	
Miscellaneous,	2,100 00	
		<hr/>
Total,		\$47,176 00

Buildings.

Institution buildings,	\$440,000 00	
Farm, stable and grounds,	27,100 00	
Miscellaneous,	2,000 00	
		<hr/>
Total,		469,100 00
		<hr/>
Grand total,		\$516,276 00

Present value of all personal property as per inventory taken

Dec. 1, 1913,	\$53,256 92
-------------------------	-------------

FARM ACCOUNT.

Dr.

Products of the farm on hand, as estimated Dec.		
1, 1912,	\$2,533 40	
Stock on hand, as estimated Dec. 1, 1912, . . .	72 80	
		\$2,606 20

General expenses:—

Blacksmith,	\$175 50	
Carriage and repairs,	64 95	
Coal,	218 64	
Cattle,	112 00	
Fertilizer,	738 90	
Hay, grain and feed,	3,693 43	
Labor,	6,297 32	
Seeds, shrubbery, etc.,	82 73	
Shavings,	71 19	
Sundries,	41 30	
Teaming (outside),	915 63	
Tools and hardware,	51 21	
		\$12,462 80

Material, etc., produced by other departments
of sanatorium for farm department:—

Board of employees,	\$1,577 50	
Waste, sanatorium kitchen,	200 00	
		1,777 50
		14,240 30
		\$16,846 50

Cr.

Produce of farm delivered to the sanatorium:—

Apples, 14½ barrels, at \$2.50 to \$3.75,	\$36 88
Beans (shell), 36 bushels, at \$1 to \$1.25,	42 75
Beans (string), 21 bushels, at \$0.75 to \$1,	18 30
Beets, 44 bushels, at \$0.75 to \$0.90,	35 10
Cabbage, 1,242 pounds, at \$0.01½,	18 63
Carrots, 98 bushels, at \$0.50 to \$1,	67 40
Cauliflower, 48 dozen, at \$1.25,	60 00
Corn, 864 dozen, at \$0.12 to \$0.15,	112 14
Cucumbers, 101 dozen, at \$0.25 to \$0.30,	25 95
Hay (oat), 1,430 pounds, at \$0.006½,	9 65
Hay, 640 pounds, at \$0.006 to \$0.008,	4 61
Lettuce, 126 dozen, at \$0.37½ to \$0.50,	52 60
Milk, 119,483 quarts, at \$0.05,	5,974 15
Parsley, 6 pecks, at \$0.25,	1 50

Parsnips, 13 bushels, at \$0.60,	\$7 80	
Pears, 7 bushels, at \$1.50,	10 50	
Potatoes, 704½ bushels, at \$0.65 to \$0.75,	519 83	
Radishes, 65 dozen, at \$0.06½,	4 23	
Rhubarb, 911 pounds, at \$0.02,	18 22	
Spinach, 30 bushels, at \$0.65,	19 50	
Squash, 7,189 pounds, at \$0.02,	144 38	
Squash (marrow), 546 pounds, at \$0.02,	10 92	
Squash (summer), 37 dozen, at \$0.50,	18 50	
Tomatoes, 214½ bushels, at \$0.75 to \$2,	222 68	
Turnips, 10 bushels, at \$0.75 to \$1.75,	9 50	
		<hr/>
		\$7,445 72
Sales: —		
Live stock, cows and calves,	\$323 00	
Pigs,	32 30	
Pork, 30,190 pounds,	2,409 85	
Sundries,	5 40	
		<hr/>
		2,770 55
Sanatorium, board of driving and express horses, 5 at \$20, 12 months,	\$1,200 00	
Service, labor and teaming for sanatorium, putting in ice, hauling provisions, filter beds, etc.,	2,535 12	
		<hr/>
		3,735 12
Stock: —		
Products of farm on hand, as estimated Dec. 1, 1913,	\$2,470 50	
Stock on hand, Dec. 1, 1913,	169 70	
		<hr/>
		2,640 20
		<hr/>
		\$16,591 59
Deficit against farm,		\$254 91

POULTRY DEPARTMENT.

DR.

Stock, \$1,394 80

General expenses:—

Coal,	\$36 30
Grain and feed,	1,476 28
Poultry,	634 75
Oil,	44 13
Salaries and wages,	772 86
Sundries,	185 08
Water,	7 99

Repairs and improvements:—

Cement, etc.,	4 65
Hardware,	5 00

————— \$3,167 04

Material, etc., produced by other
departments of sanatorium for
poultry department:—

Board of employees,	\$219 96
Farm department (teaming),	82 62

————— 302 58

————— 3,469 62

————— \$4,864 42

CR.

Products of poultry department delivered to
sanatorium:—

Eggs, 6,178 $\frac{3}{4}$ dozen,	\$1,907 06
Poultry, 3,297 pounds,	551 46
Fertilizer, 173 barrels,	138 40
Sundries,	1 36
	<hr/>
	\$2,598 28

Stock:—

Eggs,	\$9 10
Grain and feed,	82 85
Oil,	55
Poultry,	1,407 10
Sundries,	3 68
Coal,	19 13
	<hr/>
	1,522 41
	<hr/>
	\$4,120 69

Deficit against poultry department, \$743 73

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference on Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	176	169	345
Number received during year,	225	224	449
Number discharged during year,	223	215	438
Number of deaths included in preceding item,	27	9	36
Number at end of fiscal year,	178	178	356
Daily average attendance (<i>i.e.</i>), number of inmates actually present during year.	176	172	348
Average number of officers and employees during year, .	125	75.5	200.5

Expenditures.

Current expenses: —

1. Salaries and wages,	\$67,116 08	
2. Clothing,	171 52	
3. Subsistence,	76,478 26	
4. Ordinary repairs,	3,219 27	
5. Office, domestic and outdoor expenses,	41,091 42	
		\$188,076 55

Extraordinary expenses: —

1. Permanent improvements to existing buildings, . . .	7,923 74
--	----------

Grand total, \$196,000 29

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1912,	176	169	345
Number admitted Nov. 30, 1912, to Dec. 1, 1913,	225	224	449
Number discharged Nov. 30, 1912, to Dec. 1, 1913,	223	215	438
Number remaining in sanatorium Nov. 30, 1913,	178	178	356
Daily average number of patients,	176	172	348
Died (included in number discharged),	27	9	36

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	133	131	264
Married,	85	84	169
Widowed,	6	8	14
Divorced,	1	1	2
Totals,	225	224	449

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	-	4	4
14 to 20 years,	27	39	66
20 to 30 years,	107	108	215
30 to 40 years,	58	51	109
40 to 50 years,	24	20	44
Over 50 years,	9	2	11
Totals,	225	224	449

TABLE 4. — *Nativity of Patients admitted.*

PATIENTS BORN IN —	Males.	Females.	Totals.	FATHERS BORN IN —	Males.	Females.	Totals.
United States,	131	127	258	United States,	-	-	-
Ireland,	13	18	31	Ireland,	54	57	111
Canada,	12	22	34	Canada,	16	31	47
Russia,	32	26	58	Russia,	38	29	67
England,	3	3	6	England,	9	6	15
Sweden,	6	3	9	Sweden,	10	6	16
Prince Edward Island,	-	5	5	Prince Edward Island,	-	3	3
Newfoundland,	4	2	6	Newfoundland,	6	3	9
Germany,	3	2	5	Germany,	10	4	14
Italy,	5	7	12	Italy,	9	8	17
Scotland,	5	5	10	Scotland,	8	6	14
Armenia,	1	-	1	Armenia,	1	-	1
Syria,	1	-	1	Syria,	2	-	2
Denmark,	-	1	1	Denmark,	-	-	-
Norway,	-	-	-	Norway,	1	-	1
Belgium,	1	-	1	Belgium,	1	-	1
Austria,	2	-	2	Austria,	2	-	2
France,	-	1	1	France,	-	-	-
West Indies,	2	-	2	West Indies,	1	-	1
Egypt,	-	1	1	Egypt,	-	1	1
Greece,	2	-	2	Greece,	2	-	2
Roumania,	-	1	1	Roumania,	-	1	1
Hungaria,	1	-	1	Hungaria,	1	-	1
Wales,	1	-	1	Wales,	1	-	1
China,	-	-	-	China,	1	-	1
Totals,	225	224	449	Totals,	173	155	328

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Aldenville,	-	1	1	Lowell,	2	7	9
Amesbury,	1	1	2	Lynn,	3	3	6
Andover,	-	1	1	Malden,	5	6	11
Arlington,	1	1	2	Mansfield,	1	-	1
Ashland,	-	1	1	Marlborough,	2	-	2
Atlantic,	1	-	1	Medford,	1	2	3
Attleborough,	4	3	7	Melrose,	1	1	2
Ayer,	-	1	1	Middleborough,	1	-	1
Boston,	100	83	183	Milford,	-	1	1
Bridgewater,	-	1	1	Millbury,	-	1	1
Brockton,	6	3	9	Milton,	-	1	1
Brookfield,	1	-	1	Monson,	-	1	1
Brookline,	3	4	7	Natick,	1	-	1
Cambridge,	5	4	9	Needham,	-	2	2
Canton,	1	-	1	Newburyport,	2	4	6
Chelsea,	3	4	7	Newton,	-	2	2
Clinton,	2	-	2	North Attleborough,	1	1	2
Cummaquid,	-	1	1	North Easton,	2	2	4
Dartmouth,	1	-	1	Norwood,	2	3	5
Dedham,	1	-	1	Osterville,	-	1	1
Dennis,	-	1	1	Palmer,	-	1	1
Dudley,	2	-	2	Peabody,	-	1	1
Everett,	-	5	5	Pittsfield,	1	1	2
Fairhaven,	-	1	1	Quincy,	1	1	2
Fall River,	5	4	9	Revere,	1	3	4
Fitchburg,	4	1	5	Rutland,	8	5	13
Foxborough,	1	-	1	Salem,	2	1	3
Framingham,	1	1	2	Somerville,	5	7	12
Gloucester,	-	1	1	Southborough,	-	1	1
Haverhill,	4	4	8	Southbridge,	-	1	1
Holden,	-	1	1	Springfield,	3	3	6
Holyoke,	1	-	1	Swampscott,	1	-	1
Hubbardston,	-	1	1	Tewksbury,	1	-	1
Ipswich,	-	1	1	Tyringham,	-	1	1
Lawrence,	2	1	3	Uxbridge,	1	-	1
Leominster,	1	1	2	Wakefield,	1	1	2

TABLE 5. — *Residence of Patients admitted* — Concluded.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Waltham,	3	3	6	Whitman,	1	-	1
Waquoit,	1	-	1	Winchendon,	-	1	1
Ware,	-	1	1	Winchester,	-	1	1
Watertown,	1	2	3	Woburn,	2	-	2
Wayland,	-	1	1	Worcester,	16	17	33
Webster,	1	-	1	Totals,	225	224	449
Westminster,	-	1	1				

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Attendant,	1	2	3	Designer, clothing,	1	-	1
Baker,	2	-	2	Domestic,	-	13	13
Barber,	3	-	3	Draftsman,	1	-	1
Bell boy,	1	-	1	Dressmaker,	-	4	4
Blacksmith,	1	-	1	Druggist,	1	-	1
Bookbinder,	1	2	3	Electrician,	2	-	2
Bookkeeper,	1	3	4	Elevator boy,	2	-	2
Brewer,	1	-	1	Engine wiper,	1	-	1
Butler,	1	-	1	Engineer, civil,	1	-	1
Cabinet maker,	2	-	2	Engineer, stationary,	1	-	1
Carpenter,	4	-	4	Errand boy,	1	-	1
Cashier,	-	1	1	Factory,	38	41	79
Chauffeur,	2	-	2	Farmer,	1	-	1
Cigar maker,	2	-	2	Fisherman,	1	-	1
Clerk,	29	13	42	Gardener,	2	-	2
Conductor, street railway,	2	-	2	Gateman,	1	-	1
Cook,	2	1	3	General work,	8	6	14
Core maker,	1	-	1	Housewife,	-	75	75
Cutter, clothing,	1	-	1	Housework,	-	17	17
Cutter, meat,	1	-	1	Inspector,	2	1	3
Cutter, shoe,	3	-	3	Insurance agent,	1	-	1
Cutter, stone,	1	-	1	Jeweler,	1	-	1

TABLE 6. — *Occupations* — Concluded.

	Males.	Females.	Totals.		Males.	Females.	Totals.
Laborer,	10	-	10	Piano polisher,	1	-	1
Lamp repairer,	1	-	1	Plumber,	1	-	1
Laundry,	1	2	3	Porter,	3	-	3
Lawyer,	1	-	1	Printer,	7	-	7
Lineman,	1	-	1	Proofreader,	-	1	1
Machinist,	8	-	8	Reporter,	2	-	2
Manager,	1	-	1	Salespeople,	8	-	8
Merchant,	2	-	2	Seamstress,	-	5	5
Milliner,	-	2	2	Shipper,	3	-	3
Motorman,	4	-	4	Sign painter,	1	-	1
Moving-picture operator,	1	-	1	Steam fitter,	2	-	2
Musician,	2	-	2	Stenographer,	1	4	5
Newsboy,	1	-	1	Stoker,	1	-	1
News dealer,	1	-	1	Student,	6	10	16
No work,	3	6	9	Tailor,	7	-	7
Nurse maid,	-	1	1	Teacher, school,	-	1	1
Nurse, trained,	-	3	3	Teamster,	3	-	3
Nurses, student,	-	2	2	Telephone operator,	-	6	6
Paper hanger,	2	-	2	Undertaker's assistant,	1	-	1
Pattern maker,	1	-	1	Waiter,	3	2	5
Peddler,	6	-	6	Totals,	225	224	449
Physician,	1	-	1				

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	77	84	161	35.86
Moderately advanced,	102	110	212	47.22
Far advanced,	39	24	63	14.03
Not classified,	2	5	7	1.56
Nontuberculous,	5	1	6	1.33
Totals,	225	224	449	-

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Disease arrested,	97	64	161
Improved,	55	90	145
Progressive,	27	31	58
Died,	27 ¹	9	36
Nontuberculous,	4	1	5
Not considered,	13 ¹	20	33
Totals,	223	215	438

¹ One "not considered" case included in deaths.TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	DURATION.	Length of Stay.	Cause of Death.
8665	3 years, . . .	12 months, 6 days, .	Pulmonary tuberculosis.
8145	2½ years, . . .	24 months, 5 days, .	Pulmonary tuberculosis.
8588	6 months, . . .	14 months, 20 days, .	Pulmonary tuberculosis.
9017	9 months, . . .	4 months, 20 days, .	Acute dilation of the heart, pulmonary oedema and pulmonary tuberculosis.
9135	4 years, . . .	2 months, 27 days, .	Laryngeal and pulmonary tuberculosis.
8516	4 years, . . .	17 months, 11 days, .	Pulmonary tuberculosis.
8888	1 year, . . .	9 months, 5 days, .	Pulmonary tuberculosis.
8809	8 months, . . .	11 months, 13 days, .	Pulmonary tuberculosis.
9081	2 years, . . .	5 months, 23 days, .	Pulmonary tuberculosis.
8033	4 years, . . .	29 months, 11 days, .	Pulmonary tuberculosis.
8118	4 years, . . .	28 months, 10 days, .	Hæmoptysis and pulmonary tuberculosis.
8521	3 months, . . .	19 months, 12 days, .	Pulmonary tuberculosis.
9284	2½ years, . . .	1 month, 24 days, .	Tuberculous meningitis and pulmonary tuberculosis.
8726	5 months, . . .	15 months, 4 days, .	Pulmonary tuberculosis.
9120	2 years, . . .	6 months, 23 days, .	Pulmonary tuberculosis, diabetes and nephritis.
9181	5½ years, . . .	5 months, 16 days, .	Pulmonary tuberculosis.
8586	1 year, . . .	19 months, 8 days, .	Pulmonary tuberculosis.
8691	4 years, . . .	18 months, 1 day, .	Tuberculous meningitis and pulmonary tuberculosis.
8019	8 years, . . .	31 months, 16 days, .	Pulmonary tuberculosis.
8592	1 year, . . .	19 months, 13 days, .	Pulmonary tuberculosis.
9003	2 years, . . .	10 months, 5 days, .	Pulmonary tuberculosis.
9136	8 months, . . .	7 months, 27 days, .	Pulmonary tuberculosis.
9416	2 years, . . .	23 days, . . .	Laryngeal and pulmonary tuberculosis.

TABLE 9. — *Deaths, Duration of Disease, etc.* — Concluded.

No.	DURATION.	Length of Stay.	Cause of Death.
9184	1 year, . .	7 months, 10 days, .	Pulmonary tuberculosis.
9245	2 years, . .	6 months, 4 days, .	Tuberculous meningitis and pulmonary tuberculosis.
9134	3 months, . .	8 months, 24 days, .	Pulmonary tuberculosis.
9021	6 months, . .	11 months, 2 days, .	Spontaneous pneumothorax and pulmonary tuberculosis.
9337	9 months, . .	3 months, 17 days, .	Endocarditis and pulmonary tuberculosis.
8409	7 months, . .	26 months, 27 days, .	Pneumothorax and pulmonary tuberculosis.
8466	10 months, . .	25 months, 24 days, .	Laryngeal and pulmonary tuberculosis.
9429	2 years, . .	3 months, 5 days, .	Pulmonary tuberculosis.
9246	2 years, . .	8 months, 21 days, .	Pulmonary tuberculosis.
8972	4 months, . .	14 months, 16 days, .	Tuberculous meningitis and pulmonary tuberculosis.
7419	1 year, . .	45 months, 23 days, .	General military tuberculosis.
8898	6 months, . .	17 months, 22 days, .	Tuberculous enteritis and pulmonary tuberculosis.
9540	6 months, . .	2 months, 3 days, .	Pulmonary tuberculosis.

Climatological Data, Rutland State Sanatorium, Rutland, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1912, and ending Nov. 30, 1913.

DATE.	Mean Temperature (Degrees).	Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	Precipitation (Rain).	Precipitation (Snow).	Total Wind (Miles).	Wind, Average Per Hour (Miles).	Mean Relative Humidity (Per Cent.).
1912.										
December,	30.7	14	3	14	11	4.95	7.30	8,875.9	11.8	76.7
1913.										
January,	31.8	14	1	16	15	3.38	3.60	10,033.7	13.5	79.8
February,	20.2	17	5	6	6	1.73	9.20	7,784.6	11.6	68.6
March,	35.5	16	2	13	10	5.68	0.30	10,498.8	14.1	80.2 ¹
April,	44.7	13	9	8	12	4.12	0.30	5,455.4	7.5	71.7 ²
May,	52.7	14	11	6	10	4.13	-	5,137.6	6.0	54.0
June,	63.6	22	5	3	5	1.61	-	4,083.4	5.7	64.7
July,	69.0	18	10	3	12	2.19	-	6,734.0	9.0	69.3
August,	67.5	18	10	3	11	4.23	-	6,237.8	8.3	73.7
September,	52.8	17	6	7	13	5.10	-	6,276.1	8.7	78.6
October,	52.1	4	14	13	18	6.12	-	6,431.7	8.5	56.2
November,	39.9	8	17	5	10	2.73	5.50	7,845.2	10.6	71.3
Totals,	560.5	175	93	97	133	45.97	26.20	85,394.2	115.3	844.8
Averages,	46.7	14+	7+	8+	11+	3.83	2.18	7,116.2	9.6	70.4

¹ Twelve days missing.

² Twenty-one days missing.

EIGHTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES.

NOVEMBER 30, 1914.



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TRUSTEES.

WALTER C. BAILEY, M.D., *Chairman.*

ARTHUR DRINKWATER.

SYLVIA B. KNOWLTON.

GEORGE A. DUNN.

DANIEL L. PRENDERGAST.

ALBERT C. GETCHELL, M.D.

SIMON SWIG.

JOHN B. HAWES, 2d, M.D., *Secretary.*

3 JOY STREET, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report: —

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland sanatoria, have passed an active and successful year.

NORTH READING STATE SANATORIUM.

At the North Reading Sanatorium during the past year additions have been made to the dining room and administration building, rendering each more efficient and attractive. A pasteurizer and rendering plant has been installed, and a new pavilion has been built. In addition to this, several minor improvements and changes have been made. The daily average of patients has been 195, as compared with an average of 190 last year, and an original capacity of 150.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries, wages and labor,	\$38,626 50
Food,	31,142 00
Clothing and clothing material,	160 00
Furnishings,	2,425 00
Heat, light and power,	5,240 00
Repairs and improvements,	4,541 50
Farm, stable and grounds,	3,400 00
Religious services,	1,425 00
Miscellaneous,	5,480 00

\$92,440 00

For special appropriations: —

Erection of summer houses to accommodate 18 patients, . . . \$1,400 00

LAKEVILLE STATE SANATORIUM.

At the Lakeville State Sanatorium the new pavilion and private rooms, which have been used for the first time this year, have added about 34 beds. The new pavilion is very satisfactory, especially the quarters for patients in the second story, which have a remarkably fine outlook. The private rooms have added greatly to the institution's efficiency in caring for the very sick, as well as to the comfort of the patients generally, in having a larger number of the very sick patients removed from the wards. The daily average of patients has been 245.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$45,868 00
Food,	39,000 00
Clothing and clothing material,	200 00
Furnishings,	4,800 00
Heat, light and power,	7,732 00
Repairs and improvements,	6,800 00
Farm, stable and grounds,	6,000 00
Religious services,	1,250 00
Miscellaneous,	6,750 00
	<hr/>
	\$118,400 00

For special appropriations:—

Land and equipment for dairy,	\$18,300 00
Coal trestle,	2,500 00
Land for same,	1,500 00
	<hr/>
	\$22,300 00

WESTFIELD STATE SANATORIUM.

At the Westfield State Sanatorium the work of grading, street lighting and the construction of concrete walks, made possible by special appropriations, have greatly improved the sanatorium and its approaches. The daily average of patients has been 234.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$49,520 40
Food,	33,360 00
Clothing and clothing material,	1,000 00
Furnishings,	5,150 00
Heat, light and power,	6,990 00
Repairs and improvements,	7,640 00
Farm, stable and grounds,	10,070 00
Religious services,	1,330 00
Miscellaneous,	7,750 00

\$124,810 40

For special appropriations: —

School building and equipment,	\$13,725 00
Milk room and dairy equipment,	1,000 00
150 horse power boiler,	2,000 00

\$16,725 00

RUTLAND STATE SANATORIUM.

At the Rutland State Sanatorium there have been no great changes. The old barn, which was beyond repair, has been removed, and new poultry houses have been built. A new water meter has been installed, and a new contract with the town of Rutland made, which has already demonstrated that it will bring about a saving of \$50 a month, or \$600 per year, in the cost of water to the institution. The daily average of patients has been 350.

Last summer the chairman of the Board, in accordance with a vote passed at a meeting of the Board on June 16, 1914, appealed to the Governor and Council for an emergency appropriation sufficient to provide a pasteurizer at the Lakeville and at the Rutland State sanatoria.

The Board is strongly of the opinion that when the milk supply for the institutions under its care is bought from outside dealers, the patients should be safeguarded against any milk-born epidemic by pasteurization of the milk.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries and wages,	\$70,000 00
Food,	71,000 00
Clothing,	300 00

Heat, light and power,	\$14,000 00
Furnishings,	5,000 00
Repairs and improvements,	6,000 00
Farm, stable and grounds,	9,000 00
Religious services,	1,400 00
Miscellaneous,	13,300 00
	<hr/>
	\$190,000 00

OFFICE DISBURSEMENTS.

Appropriation:—	
Salaries,	\$7,550 00
Expenses,	4,000 00
	<hr/>
	\$11,550 00
Subsidy department,	129,868 44
	<hr/>
	\$141,418 44
Expenses:—	
Salaries,	\$7,419 91
Expenses,	3,771 29
	<hr/>
	\$11,191 20
Subsidy department,	129,868 44
	<hr/>
	\$141,059 64

The estimates for the maintenance of this office for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries,	\$7,969 49
Expenses,	4,770 00
	<hr/>
	\$12,739 49
Subsidy department,	140,000 00
	<hr/>
	\$152,739 49

LOCAL TUBERCULOSIS HOSPITALS.

Last year we reported that the following cities and towns had complied with the law and provided themselves with local tuberculosis hospitals: Fitchburg, Chicopee, Haverhill, Pittsfield and Salem. Since that time, certain other cities and towns have taken action in this regard. Chief among these is the city of Worcester, which has finally completed a large

hospital for the accommodation of 55 patients. It is expected that the number of beds will be increased in the near future. This hospital should prove of great help not only to the city of Worcester but to the nearby cities and towns, which, according to the provision made in the law, are allowed to make arrangements for the accommodation of their own patients in such a neighboring institution. The city of Clinton has been fortunate in receiving a donation of a fund for the purpose of constructing a local tuberculosis hospital, which is nearing completion. The city of Fall River for some years has had a local tuberculosis hospital. The standard of this hospital has not been such as to obtain the approval of this Board for the purpose of receiving the State subsidy. Acting on suggestions from this Board, however, such improvements have been made during the past year, to enlarge and increase the efficiency of this hospital, that it has been approved under the terms of the subsidy act. In addition to these, by a special act of the Legislature last year, Hampshire County was authorized to construct a county sanatorium for the care of indigent consumptives in that district. This hospital is now completed with 40 beds, which are rapidly being filled. Seven cities and two towns have appointed committees, and have plans, or are actually preparing them, for local hospitals. Six cities, — Lowell, Brockton, Gloucester, Medford, Newburyport and Woburn, — in reply to an inquiry from this Board, have admitted that nothing is being done in this matter. The cities of Lowell and Gloucester, however, are expected shortly to submit plans for suitable municipal tuberculosis hospitals.

WAITING LIST.

The waiting list for the four sanatoria, despite the increased accommodation, is still a long one. Except under most exceptional instances, such as acute emergencies requiring immediate hospital care, patients are admitted to the four sanatoria only in the order of their application. It is of course evident to all that this is the only right and proper procedure. At the present time there are upon this list over 300 men and women, each of whom is urgently in need of treatment. Many* of these are in the advanced stages of the disease, and it is

inevitable that a certain not small proportion of them will die before they can possibly be given the accommodation and treatment of which they are so urgently in need. This is due to a large extent to the fact that many towns and cities have not yet complied with the law requiring local tuberculosis hospitals for the accommodation of this class of patients. The cities of Lowell and Gloucester are the largest and most prominent of those which have as yet made no provision for their advanced, indigent consumptives. It is only fair to state, however, that it is expected that both of these cities will shortly prepare and submit to the State Board of Health suitable and proper plans for the construction of a hospital for the reception of persons having tuberculosis and other diseases dangerous to the public health.

CARE OF CHILDREN.

In the last report, mention was made of the special care being given to tuberculous children at the Westfield State Sanatorium. At this institution there are now over 100 children, fifteen years and under, accommodated in a special ward building. It is hoped that an appropriation will be granted this year to provide for a school building where these patients can be graded and given proper instruction. At the present time accommodations for this purpose are extremely inadequate, and the work is carried on at a great disadvantage.

The importance of childhood infection is coming to be recognized as a most important factor in anti-tuberculosis work. This Board wishes to impress upon physicians and anti-tuberculosis workers throughout the State the absolute necessity of recognizing and treating tuberculous infection in children if we are ever going to make any headway in this fight. At present the tendency is to wait until people become sick before any attempt to cure them is made. The bulk of the patients at present under treatment in our State sanatoria represent the results of infection when they were children. The Board, therefore, urges the study of infection in children, and the necessity of making an early diagnosis. To arouse the interest of physicians as to the importance of this subject, the Board has sent out to every registered physician in this State a letter, calling attention to this subject, which is here given.

Aug. 1, 1914.

DEAR DOCTOR: —

Do you consider that the prevention of tuberculosis is one of the most important social and medical questions of the day?

If you believe it is true that protection of the child against tuberculous infection is of paramount importance, do you realize that you as a physician hold the key to the situation?

Will you read carefully the following plan and co-operate with us?

Into every household come people, either as visitors, boarders or workers, who either continually or spasmodically have tubercle bacilli in their sputum. Children as a rule associate with these people intimately, which association may in a few weeks thoroughly infect the child. If the child is very young and the infection is a virulent or massive one, acute tuberculosis in some form often results, and brings about the death of the child. The older children, with greater powers of resistance, check this infection with their glandular apparatus, and may remain in good health or perhaps only slightly ailing through school life. It is these children, however, who cannot stand the strain of young adult life, and who furnish our thousands of new cases of pulmonary tuberculosis each year.

It is your opportunity, first, to protect these children from infection, and, second, to see that they are cared for when such infection has taken place. If you delay making a diagnosis until actual disease is evident, the case has probably gone beyond the stage when cure is possible. A diagnosis of "infection," as contrasted with a diagnosis of "disease," is the key to this problem. We ask you to help us by reporting these cases, simply as a matter of record, to the State Board of Health, which board will furnish special cards for the purpose.

The Von Pirquet test is of great value in these cases. Any physician in the State who applies to this office will be notified where he can obtain practical instruction in the performance of this test at a place near his home, and also training in the examination of children's chests.

Furthermore, remember that milk from tuberculous cows is extremely dangerous for young children, and urge your patients to pasteurize all milk.

For these infected children open-air schools are a necessity. Will you not begin now to agitate this question, an early start insuring success in obtaining such schools for next winter?

WALTER C. BAILEY, M.D., *Chairman.*

ARTHUR DRINKWATER.

GEORGE A. DUNN.

ALBERT C. GETCHELL, M.D.

SYLVIA B. KNOWLTON.

DANIEL L. PRENDERGAST.

SIMON SWIG.

In addition to this, arrangements have been made with various dispensaries and out-patient departments, notably that of the children's department at the Massachusetts General Hospital, where instruction is given in the examination of children's chests and in the performance of the Von Pirquet tuberculin reaction. A list of these special clinics, and the times at which physicians may receive such instruction, is here appended.

Clinics at which Instruction in the Performance of the Von Pirquet Test and in Examination of Children's Chests will be given.

City.	Institution.	Physicians.	Time.
Rutland,	Rutland State Sanatorium,	Dr. Washburn and assistants,	Every day except Sunday; telephone in advance.
Middleborough,	Lakeville State Sanatorium,	Dr. Coolidge and assistants,	Every day except Saturday and Sunday; telephone in advance.
North Reading,	North Reading State Sanatorium,	Dr. MacCorison and assistants,	Wednesday, 2 P.M.
Westfield,	Westfield State Sanatorium,	Dr. Chadwick and assistants,	Thursday, 10 to 12 A.M.
Boston,	Boston Consumptives' Hospital, out-patient department, 13 Dillaway Street.	Dr. Floyd and assistants,	Saturday, 9 to 12 A.M.
Boston,	Boston Dispensary, 25 Bennet Street,	Dr. Howard and assistants,	-
Boston,	Massachusetts General Hospital, North Grove Street.	Drs. Talbot and Smith and assistants,	Tuesday, 11 to 12 A.M.
Brockton,	Board of health clinic,	Drs. Buckley and McCann,	Thursday, 3 P.M.
Fitchburg,	Tuberculosis clinic, 336 Main Street, Room 50,	Dr. Robt. A. Rice,	Saturday, 4 to 5 P.M.
Haverhill,	Tuberculosis Hospital, Boardman Street,	Dr. I. J. Clarke and assistants,	Tuesday, 10.30 A.M.
Lawrence,	Lawrence Anti-Tuberculosis League, 31 Jackson Street.	Dr. Burham and assistants,	Saturday, 4 P.M.
Lowell,	Lowell General Hospital,	Dr. E. J. Clark,	-
Lynn,	Lynn Hospital, 212 Boston Street,	Dr. Shea and assistants,	Thursday, 3 P.M.
New Bedford,	Tuberculosis Association clinic,	Dr. S. H. Rennick,	-
Worcester,	Worcester City Hospital, out-patient department.	Dr. A. C. Gatchell and assistants,	Monday and Thursday, 3 P.M.

MEAT RATIONS.

During the past three months the Board has been making a detailed study of the question of establishing a uniform meat ration for the four institutions under its charge. It has been felt for a long time that not only is the cost of meat at the four sanatoria greater than it should be, but also that the patients are receiving too much of this particular variety of food for their own good. It is hoped as a result of this study that a meat ration will be established which will be uniform in cost, quality and amount at the North Reading, Lakeville, Westfield and Rutland State sanatoria, and which will result in increasing the total food value of the diet received by the patients.

PRISON LABOR.

In these institutions, from the very nature of the disease with which the patients are afflicted, there is comparatively little opportunity for obtaining any large number of able-bodied laborers, to do much needed work in and about the sanatoria, from among the patients themselves. To import labor from outside for the building of roads, farming, forestry, etc., is expensive. The Board is at present endeavoring to make arrangements with the Prison Commission, and with various county jails, whereby prison labor at a very moderate cost can be obtained. It is hoped by this means that a large amount of work can be done at each institution which now has either to be left undone or to be completed by a very gradual and slow process.

SANATORIUM AND HOSPITAL CLASSES.

The development of the sanatorium class idea, as a means of increasing the efficiency of our State sanatoria, has brought interesting and valuable results. This system, — which consists in brief of dividing the patients at each of our sanatoria into two voluntary classes, namely, the sanatorium class, composed of those who really wish to get well and who desire to co-operate in every way with the physicians in charge, and the hospital class, composed of those who do not make any real

effort to get well and who do not subscribe to the necessary rules nor co-operate with the physicians, — first introduced at the North Reading State Sanatorium, has now been carried into effect at each of the four institutions under this Board.

The results obtained have been far beyond our expectations, and lead us to believe that this scheme will undoubtedly play an important part in future State sanatorium work. Moreover, for the first time, it furnishes us with a proper criterion by which to judge the results of our work, inasmuch as those patients who have been in the sanatorium class have followed the rules and regulations necessary for success, while those in the hospital class have used the sanatorium simply as a well-conducted boarding house. From the results obtained in the sanatorium class, it is fair to judge of what our State sanatoria can accomplish. The success of this scheme will be shown by figures in the special reports of the four sanatoria to follow. The marked improvement of the patients in the sanatorium class, as compared with those in the hospital class, clearly shows the merits of this system.

AFTER-CARE WORK IN REGARD TO DISCHARGED PATIENTS.

The value of this work of looking after our patients after they are discharged from the State sanatoria is becoming increasingly evident. Not only are the results obtained by so doing of great value to the individual patients in keeping them under proper supervision, and in seeing that they have employment suited to their condition and needs, but also it is of value to the members of the patients' families and to others coming in contact with them. In a paper read before the National Tuberculosis Association in May, 1914, the secretary of this Board reported among other things that 600 of our patients discharged from the State sanatoria had exposed to infection a total number of 2,601 others. The same proportion holds true in the case of children. Thus it is evident that in supervising and helping patients after they have left the State sanatoria, this work makes itself felt over a very large field, and is an important factor in making efficient and permanent the results accomplished in our State institutions.

Report of After-care Work, Dec. 1, 1913, to Dec. 1, 1914.

	Number.	Per Cent.
Cities and towns,	133	-
Number of calls,	877	-
Number of patients visited,	563	-
Number of patients discharged from Rutland,	185	32.9
Number of patients discharged from Lakeville,	157	27.9
Number of patients discharged from North Reading,	131	23.2
Number of patients discharged from Westfield,	90	16.0
Classification on admission:—		
Incipient,	98	17.4
Moderately advanced,	211	37.5
Advanced,	246	43.7
Not examined,	8	1.4
Classification on discharge:—		
Arrested,	158	28.0
Improved,	219	39.0
Progressive,	125	22.2
Not examined,	61	10.8
Positive sputum on discharge,	231	41.0
Number of patients:—		
Left the State, entered local hospitals, etc.,	146	25.9
Dead,	61	10.8
Visited,	356	63.3
Out of 356 patients visited there were:—		
Good condition,	162	45.5
Fair,	91	25.6
Ill,	103	28.9
Out of 356 patients visited there were:—		
Working,	196	55.0
Not working,	160	45.0
Out of 356 patients:—		
Under medical supervision,	243	68.0
Not under medical supervision,	113	32.0
Out of 563 homes visited, the local boards of health have disinfected,	249	44.2
Out of 356 patients, adequate instruction by boards of health has been given to,	157	44.1

SUBSIDY DEPARTMENT.

Mr. Louis N. Phaneuf, agent of the Board to carry on the work connected with the subsidy act (chapter 597, Acts of 1911, amended by chapter 613, Acts of 1912), reports that during the past year the sum of \$129,868.44 is due to those cities and towns having local tuberculosis hospitals approved by this Board, in which indigent consumptives have been cared for; while for the year 1913, \$103,862.83 was paid out for this purpose.

In certain instances cities and towns, not themselves having tuberculosis hospitals, but within easy reach of a city or town

having such accommodations, have been allowed the State subsidy for their patients. This law, under the terms of which cities and towns having local tuberculosis hospitals approved by this Board are allowed \$5 per week for each patient with tubercle bacilli in the sputum, is intended to encourage the construction of local hospitals for sick and dying consumptives, and for others in need of immediate treatment.

In addition to this work, the Board is keeping physicians, dispensaries and other local agencies in touch with the patients by notifying them of the patients' entrance to the sanatorium, the condition at this time, and whether or not this examination made in the sanatorium agrees with the diagnosis made by the physicians who first examined the patients. Of yet more importance, the physician, or dispensary, as well as the local and State boards of health, is notified when the patient is discharged, and given information concerning his condition at this time, whether or not he has made improvement, with advice and suggestions for future treatment. Physicians are also promptly notified if, after being assigned to any sanatorium, patients do not enter the institution. This enables physicians and boards of health to look up these patients in order to find out why they did not go to the sanatorium, and, if necessary, to persuade them to go or at least to see that they are under proper supervision at home.

EX-PATIENTS ON THE PAY ROLL.

The Board has continued its policy of offering employment to all patients who on discharge are found to be suited for work which the sanatorium can offer. At the North Reading Sanatorium during the past year there have been 8 ex-patients on the pay roll; at the Lakeville Sanatorium 10 ex-patients have been employed; at Westfield 34 and at Rutland 134, making a total of 186 patients who have been given useful employment and kept under proper medical supervision in these institutions.

REGULATION OF WORK.

As mentioned in previous reports, work is regarded as a therapeutic measure, and is required of such patients whom the physicians feel to be suited for it. This work consists in

cleaning and caring for the wards, waiting at the tables, sweeping, cutting grass, work in the garden and on the lawns, painting, etc. The superintendents report that they are meeting with less opposition on the part of the patients when asked to do labor of this kind. At each of the four State sanatoria much work has thus been done by patients. Cases not infrequently arise, however, when patients absolutely refuse to do any work, feeling that it is an injustice to be asked to do so. A certain number of patients are discharged from our sanatoria from time to time for this reason.

PATIENTS DISCHARGED ON PAROLE.

During the past year, the Board has deemed it wise to permit the superintendents to put certain patients leaving their institutions on a "temporary discharge list." Patients on this list are readmitted, should their condition make this necessary, without going through the regular procedure of having their names put upon the waiting list, and undergoing the delay ensuing until their names are regularly reached. This plan is to help a certain number of patients, who, during their stay at the sanatorium, have co-operated with the physicians and have done their best in every way to get well, and have finally reached a condition when they feel able to do a certain amount of work outside the sanatorium. These patients are expected to keep themselves under careful supervision, and to report from time to time to the sanatorium from which they were discharged. When any signs of a relapse become apparent, they are immediately readmitted in order that their disease may be permanently arrested if possible, and that the State may not lose the results of what had already been spent in their case.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past and has steadily increased. Many letters, touching on every phase of the tuberculosis question, have been written to physicians, patients and their friends, and anti-tuberculosis workers not only in Massachusetts but all over the country.

The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the work. Literature in the way of reports, reprints, instructive pamphlets, pay envelope cards, etc., is kept on hand for distribution. Members of the Board and the four superintendents have given many informal talks on the subject of tuberculosis to the patients in the sanatoria, and, outside, to women's clubs, meetings of physicians, and others. In addition to this, articles of medical and scientific interest, based on work carried on in the sanatoria, have been published in medical journals from time to time. A list of such articles is appended. "The Journal of the Massachusetts State Sanatoria," a monthly paper published at the Rutland State Sanatorium, in addition to giving items of news from the four sanatoria, contains numerous articles of interest and value not only to patients but to their friends and to the public at large. This paper is distributed to the patients, anti-tuberculosis associations, physicians, and to many others who have asked that their names be put upon the mailing list.

The following articles, based on anti-tuberculosis work in Massachusetts, in our State sanatoria and elsewhere, have been written and published during the past year by members of the Board and the superintendents: —

Dr. Walter C. Bailey: —

A Scheme for Promoting Efficiency in State Sanatoria.

Diagnosis and Treatment of Tuberculosis in Childhood.

Dr. Albert C. Getchell: —

The Present Status of the Treatment of Laryngeal Tuberculosis in the Massachusetts State Sanatoria.

Dr. John B. Hawes, 2d: —

The Problem of Infection in Tuberculous Families.

A Study of Extra-pulmonary and Other Sounds which may lead to Errors in the Diagnosis of Pulmonary Tuberculosis.

The Frequency of Laryngeal Tuberculosis in Massachusetts.

Under what Conditions is the Diagnosis of "Tuberculosis" in Children justified?

Remarks on the Diagnosis and Treatment of Early Pulmonary Tuberculosis.

Tuberculosis in the Aged.

Dr. Harry S. Newhart:—

Practical Application of Sanatorium Treatment for Tuberculosis.

Dr. N. B. Burns:—

The Treatment of Hemoptysis in Pulmonary Tuberculosis.

Further Observation of Seasonal and Meteorologic Influence upon Tubercular Patients.

Valvular Heart Disease considered as a Contributory Etiological Factor in Pulmonary Tuberculosis.

Treatment of Hemoptysis in Tuberculosis.

Sanatorium Treatment of Tuberculosis.

Dr. Carl C. MacCorison and Dr. Walter C. Bailey:—

A Scheme for Promoting Efficiency in the State Sanatoria.

Dr. Henry D. Chadwick and Dr. Roy Morgan:—

The Treatment of Pulmonary Tuberculosis by Artificial Pneumothorax.

The Sanatorium and Hygienic Treatment of Tuberculous Adenitis.

The Prognostic Value of a Study of the Leucocytes.

Prognosis and Diagnosis of Tuberculosis (Dr. Morgan).

Dr. Elliott Washburn:—

Tuberculosis in the Industries of Massachusetts — Shoe Making.

Tuberculosis in the Industries of Massachusetts — Jewelry Making.

Tuberculosis in the Industries of Massachusetts — Metal Molding.

Tuberculosis in the Industries of Massachusetts — Metal Polishing.

Tuberculosis in the Industries of Massachusetts — Textile Industries.

Tuberculosis in the Industries of Massachusetts — Stone Cutting.

Tuberculosis in the Industries of Massachusetts — Manufacture of Clothing.

Can I keep up the Treatment after I leave the Sanatorium?

The Relation between Industrial Hygiene and Community Health.

Dr. James A. Lyon:—

Therapeutic Artificial Pneumothorax as Associate Treatment in Pulmonary Tuberculosis; a Preliminary Report of Sixty-two Cases.

A Report of Two Hundred and Forty-one Cases of Laryngeal Tuberculosis treated at the Rutland State Sanatorium.

The Present Status of Artificial Pneumothorax Therapy.

Mr. Rudolph Ertischek, bacteriologist:—

Three Methods for the Diagnosis of Pulmonary Tuberculosis by Sputum Examination as carried out at the Rutland State Sanatorium.

The Board wishes to express its appreciation of the valuable and efficient services which Dr. Getchell has given in the care of nose and throat conditions in patients at the institutions under its charge.

REPORT ON LARYNGEAL TUBERCULOSIS AND THE TREATMENT OF OTHER
NOSE AND THROAT CONDITIONS.

BY ALBERT C. GETCHELL, M.D., TRUSTEE.

I have visited Rutland once every month, and the other three sanatoria once every other month regularly; also, I have visited them at other times when sent for for special cases. The objects of these visits are to examine with the local physicians patients whom they wish me to see, to supervise and stimulate interest in the work, and to do such operations as the local men do not feel able to do or care to do. The work of this department consists of the systematic examination of the nose, throat and ears of every patient, a proper record of such examinations, and treatment of cases needing it. These cases are satisfactorily treated by the local physicians, including such operations as removal of nasal polyps, amputation of uvulas, and surgical treatment of tonsils. Dr. Chadwick, among his children, has performed a few operations for the removal of adenoid growths and tonsils. In response to the question as to whether or not these growths were of more frequent occurrence than would be the case among a similar number of nontuberculous children, he reported that in his opinion they were not more common. The superintendents of the four sanatoria agree with this statement and believe that the role of simply enlarged tonsils, as far as infection of the lungs with tuberculosis is concerned, has been somewhat overestimated. While all these conditions are interesting and demand due consideration, the chief interest naturally lies in tuberculous disease of the upper air passages. Below are represented such items regarding this disease as particularly mark this year's work.

Number of Cases. — At the Rutland State Sanatorium, reserved for patients with early pulmonary tuberculosis, out of 825 patients treated, there were 38 cases, or 4.6 per cent., of tuberculous disease of the throat. At the North Reading, Lakeville and Westfield State sanatoria, out of 1,695 patients treated, there were 139 cases, or 8.2 per cent. Seven of the Rutland patients had involvement of the epiglottis, while in the other sanatoria there were 23 cases of epiglottic involvement. In none of the Rutland patients was the pharynx involved; at the other sanatoria there were 7 patients with this complication. The proportion of patients with tuberculosis of the throat cured or markedly improved at Rutland was rather high; at the others, very low.

Injectations into the superior laryngeal nerve for the relief of pain, the removal of the epiglottis, and the use of galvanocautery in the larynx, methods of treatment previously very little used at our sanatoria, have brought good results, and are well worth further trial.

The epiglottis, or a part of it, has been removed in three instances. One patient was relieved of pain to a moderate extent. Another was at once relieved of marked pain on swallowing, and for over a month had

no recurrence. The third patient obtained complete relief of pain, and apparently a cure of the disease; after several months there has been no sign of return.

I feel that removal of the epiglottis is an operation well worth while in properly selected cases. It can be done without much pain or disturbance of the patient, while the prospect of relief of pain, if not of permanent cure of the disease, is enough to justify it.

In the space at my command, I cannot here do justice either to the work or the reports the superintendents have handed me. In the near future, however, I propose to make a more detailed study of this subject.

Respectfully submitted,

WALTER C. BAILEY, M.D.

ARTHUR DRINKWATER.

GEORGE A. DUNN.

ALBERT C. GETCHELL, M.D.

SYLVIA B. KNOWLTON.

DANIEL L. PRENDERGAST.

SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MACCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
NEWELL B. BURNS, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
HARRY S. NEWHART, M.D.,	.	.	.	.	<i>Physician.</i>
ALBERT E. YOUNG,	.	.	.	.	<i>Bacteriologist.</i>

JENNIE H. SANFORD,	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	<i>Supervisor.</i>
EDWARD W. PERRY,	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, 3 Joy Street, Boston.

LADIES AND GENTLEMEN: — I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1914.

The records show that during the year 525 patients have been treated, and 344 have been admitted, thus showing an increase of 24 over last year. The lowest daily census was 178, and the highest 203. The daily average number of patients was 194.53, which is 8.94 per cent. more than that of the preceding year.

There have been admitted during the year 13, or 3.77 per cent., incipient, 93, or 27 per cent., moderately advanced, and 235, or 68.31 per cent., advanced cases; 2, or .58 per cent., not tubercular, and 1, or .29 per cent., not determined. There has been a daily average of 80.4 bed cases, approximately 41 per cent. of the daily population.

Of the 344 cases admitted, 265, or 77.03 per cent., were inside workers, and 270 were admitted from cities and towns having a population of 25,000 or more, as follows: Boston, 134; Chelsea, 14; Haverhill, 10; Lowell, 29; Lynn, 17; Malden, 16; Brookline, 3; Chicopee, 1; Cambridge, 3; Everett, 3; Fitchburg, 1; Fall River, 1; Gloucester, 5; Lawrence, 3; New Bedford, 3; Newton, 1; Salem, 3; Somerville, 14; Taunton, 2; Worcester, 5; Waltham, 2.

Of the patients discharged, the average duration of residence in the sanatorium was 176 days, as opposed to 203 days for the preceding year; the longest residence of any person was 1,654 days, and the shortest 1 day.

Of the patients discharged during the year, 130 males and

61 females have gained in weight, the total gain being 2,225 pounds; the average male gain was 10.2 pounds, and the average female gain was 14.7 pounds; 23 patients have remained stationary, 45 have lost, and 67 have died. Thirteen patients, or 3.99 per cent., have been discharged "arrested;" 19, or 5.83 per cent., "apparently arrested;" 63, or 19.32 per cent., "quiescent;" 80, or 24.54 per cent., were "improved;" 41, or 12.58 per cent., were "progressive;" 67, or 20.55 per cent., have died; 40, or 12.27 per cent., were "not considered" (duration of stay being less than one month); and 3, or .92 per cent., were not tuberculous. The average age was 33.27 years. One hundred and seventy-three were foreign born, 53.07 per cent., and 114 were American born, but of foreign parentage.

The total cost for maintenance for the year ending Nov. 30, 1914, was \$88,300.21; deducting \$815.87, collected from miscellaneous sources, leaves a net amount expended for maintenance of \$87,484.34. The average per capita cost per week is \$8.62. There has been collected from private patients \$3,482.71, and from cities and towns, \$17,459.39. Further details will be found in succeeding pages of this report.

Fifty-three cases have been supported from private funds, 282 cases by cities and towns, 184 cases entirely by the State, and 11 private cases have later become either town or State charges. There were remaining November 30, 15 private cases, 89 city or town cases, 43 State cases, and 52 unknown cases.

MEDICAL REPORT.

The work of the sanatorium staff has included firm insistence upon the patients following out in strict detail the general hygienic-dietetic treatment, with modifications to suit individual needs.

The physicians feel that some patients, through carelessness, do not avail themselves of the many helpful advantages of sanatorium treatment. Therefore much attention must be given to the correction of this negligence.

For the many troublesome symptoms common to pulmonary tuberculosis, a multitude of remedies have been applied, and

the most efficacious selected for daily use in alleviating the sufferings of afflicted patients.

For special treatments we have continued this year the use of:—

1. Inhalation apparatus, which we find is adapted to a few cases, but is by no means a cure-all for tuberculosis.

2. Artificial pneumothorax, which, however, can be used in only a very few cases in our class of patients.

3. Intensive nascent iodine (chemical). In this treatment we have had great difficulty in obtaining candidates for the administration of the drug, due to resulting gastric complications and general symptoms of iodism.

4. Tuberculin in selected cases. We still encounter great hostility in the attitude of the patients toward tuberculin. Very few patients are willing to take the treatment when it is recommended to them.

LABORATORY REPORT.

Persistent work was carried on in the attempt to demonstrate tubercle bacilli in the sputum of every patient possible. At the end of the year we find that of the total patient population only 19.59 per cent. have negative sputum.

During the year 1914, 1,166 specimens of sputum, 587 urine specimens and 14 specimens of feces were examined. Thirty-five blood examinations were made, and 16 ascitic and pleuritic fluids were examined.

We have made our own culture media, finding it superior in quality and efficiency, and much cheaper, than the stock media supplied by commercial firms. Gathering and charting meteorological data, plotting the general weight charts, compiling the data relative to patients' statistics, and a variety of other clerical affairs have been included in the bacteriologist's duties, making the laboratory a very busy place at all hours of the day. Five or six patients, according to their condition, have assisted in this clerical work.

The Babcock milk test for fat percentage in specimens of milk supplied the sanatorium, through the various dairies, is made regularly as a part of the routine. An efficiency test of the pasteurizer, based upon bacteriological search in the various

steps of the process, has been instituted as another measure to safeguard the purity of the milk supply of the sanatorium.

The papers published by the sanatorium staff during the year will be found elsewhere in the report of the Board.

SANATORIUM CLASS.

We still find that the sanatorium class idea is of great benefit, not only to the institution in general, but to the patients individually. Discipline has been much easier to maintain, and we believe that even the hospital class patients have been benefited by the system.

The results of a careful examination of our case histories on Nov. 29, 1914, are arranged below in tabular form: —

	MALE.		FEMALE.	
	Sanatorium Class.	Hospital Class.	Sanatorium Class.	Hospital Class.
Improved,	45 or 37%	35 or 34%	42 or 64%	11 or 32%
Not improved,	6 or 5%	34 or 33%	7 or 11%	15 or 44%
Stationary,	10 or 8%	24 or 23%	1 or 2%	6 or 18%
Not considered,	8 or 6%	11 or 10%	4 or 6%	2 or 6%
Too ill to be classified,	54 or 44%	—	11 or 17%	—
Total,	123	104	65	34

The above table shows that the greatest gain has been made by the female patients. Women invariably make better patients, and are more conscientious in carrying out the treatment.

WORK PERFORMED.

In addition to the usual duties assigned to the patients, such as the care of the wards and grounds, painting of screens, beds, etc., the following goods have been made up by the female patients: towels, 259; sheets, 37; laundry bags, 128; screen covers, 41; tent screens, 23; bathroom curtains, 3 pairs; sash curtains, 16 pairs; patients' tablecloths, 84.

RELIGIOUS SERVICES.

Catholic, Protestant and Jewish services have been held weekly in the patients' dining room.

IMPROVEMENTS.

A small building has been erected on the south wall of the coal bunker, in which has been installed the pasteurizing plant and the grease rendering plant, also a workshop for pipe fitting and tinsmithing, etc. A by-pass line and cesspool have been installed parallel to the first cesspool of the main sewage system. A small fireproof building has been erected over the incinerator. Two hundred and twenty-seven and one-third additional square yards of concrete walk have been laid about the hospital buildings, also 140 square yards of cinder walk.

Extensive grading of the grounds has been accomplished, 350 young pine seedlings transplanted about the buildings, and additional shrubbery and deciduous trees set out. About 3 acres of brush land have been cleared, and a fire lane plowed on the southwest and west boundaries of the grounds.

Work on the new pavilions and dining-room extension, for which special appropriations were made by the Legislature of 1913, was completed last January. The new building for the storing of farm implements, etc., the new coal shed for housing anthracite coal, the small addition to the administration building, and the new 25,000-gallon tank, for which special appropriations were made by the Legislature of 1914, are practically completed.

Three-quarters of an acre of land and a spur track, for which an appropriation was made in 1910, have been purchased and are now in use.

FARM.

Our farming results this year were decidedly poor. A severe late frost ruined the strawberry crop. The potato crop was markedly affected by blight, and the prolonged drought of late summer and fall seriously injured our garden crops.

Two and one-fourth acres of new land were cleared and put under cultivation. One acre of this will eventually be included under grounds, and the remainder sown to grass.

RECOMMENDATIONS.

During the past two years we have cared for from 18 to 20 patients in tents. Although this is a very satisfactory manner in which to house our patients, it is rather costly, inasmuch as the tents deteriorate rapidly and have to be replaced about every eighteen months. The tents stand the winter storms badly, and cannot be made as comfortable as more substantially constructed quarters. Very satisfactory summer houses, to accommodate 18 patients, can be constructed for \$1,400. I would recommend that this sum be appropriated for this purpose.

At the present time we are obliged to dump the bituminous coal upon the ground at our siding. This is a very wasteful method. Therefore I would recommend that the sum of \$1,500 be appropriated under maintenance, and classified under repairs and improvements, for the erection of a retaining wall and concrete flooring at this siding.

The sum of \$91,090 will be needed for the maintenance of the sanatorium for the ensuing year.

ACKNOWLEDGMENTS.

We owe a special debt of gratitude to our chaplains, the Rev. Father Francis Walsh, Rev. Mr. Henry M. Goddard and Rabbi Jurman, for their many calls upon the sick, and officiating at the weekly religious services. I desire to acknowledge our appreciation to the Rev. Dr. Henry for his kindness in administering to the patients of the Episcopal faith.

During the year many gifts of books, periodicals and magazines have been presented to the sanatorium, for which I am very grateful.

We are especially indebted to the Flint Memorial Library of North Reading for a gift of 500 books on fiction, religious and agricultural matters, and to the Winchester branch of the Needlework Guild of America for their gift of garments to our patients.

To the many friends of the sanatorium who have gratuitously given their services for the entertainment of the patients, I

wish to express my thanks. I especially wish to thank Miss Lena Doucette, Mrs. Golden and Mr. Maurice Rosenfield.

To the officers and employees of the sanatorium, I wish to express my appreciation of their hearty support and co-operation.

To the trustees, I wish to express my appreciation for their kind advice and support throughout the year.

Respectfully submitted,

CARL C. MACCORISON,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1914: —

CASH ACCOUNT.

Balance Dec. 1, 1913,	\$450 27
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Receipts.

Institution Receipts.

Board of inmates: —

Private,	\$3,482 71
Cities and towns,	17,459 39

\$20,942 10

Sales: —

Clothing and materials,	\$72 62
Furnishings,	35 61
Repairs and improvements,	1 85
Miscellaneous,	259 78

Farm, stable and grounds: —

Horse,	\$150 00
Slaughtered,	48 81
Rabbits,	16 30
Hens,	7 50
Swill,	6 50
Vegetables,	2 35
Grease,	36 48
Sundries,	178 07

446 01

815 87

Miscellaneous receipts: —

Interest on bank balances,	\$126 88
Sundries,	41 23

168 11

21,926 08

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of 1913,	\$4,934 11
Advance money (amount on hand November 30),	6,000 00
Approved schedules of 1914,	80,244 29

91,178 40

Special appropriations,	13,001 70
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Total,	\$126,556 45
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Payments.

To treasury of Commonwealth, institution receipts,		\$21,926 08
Maintenance appropriations:—		
Balance November schedule, 1913,	\$5,384 38	
Eleven months schedules, 1914,	80,244 29	
November advances,	4,752 42	
	<hr/>	90,381 09
Special appropriations:—		
Approved schedules,	\$13,001 70	
November advances,	57 75	
	<hr/>	13,059 45
Balance Nov. 30, 1914:—		
In bank,	\$993 78	
In office,	196 05	
	<hr/>	1,189 83
Total,		<hr/> \$126,556 45

MAINTENANCE.

Appropriation,	\$89,091 28
Expenses (as analyzed below),	88,300 21
	<hr/>
Balance reverting to treasury of Commonwealth,	\$791 07

Analysis of Expenses.

Salaries, wages and labor:—		
Carl C. MacCorison, M.D., superintendent,	\$2,500 00	
General administration,	16,175 81	
Medical service,	2,871 27	
Ward service (male),	1,688 38	
Ward service (female),	6,117 52	
Repairs and improvements,	2,324 93	
Farm, stable and grounds,	5,291 95	
	<hr/>	\$36,969 86
Wages not on pay roll,		12 00
Food:—		
Butter,	\$3,225 88	
Butterine,	264 90	
Beans,	86 78	
Bread and crackers,	33 89	
Cereals, rice, meal, etc.,	223 10	
Cheese,	44 22	
Eggs,	1,752 10	
Flour,	949 06	
Fish,	636 68	
Fruit (dried and fresh),	1,928 48	
	<hr/>	
Amounts carried forward,	\$9,145 09	\$36,981 86

<i>Amounts brought forward,</i>	\$9,145 09	\$36,981 86
Food — <i>Con.</i>		
Lard,	131 02	
Meats,	8,966 23	
Milk,	6,935 81	
Molasses and syrup,	64 28	
Spices, seasonings, salt, etc.,	53 46	
Sugar,	902 94	
Tea, coffee, broma and cocoa,	507 55	
Vegetables,	1,913 45	
Yeast,	116 70	
Sundries,	466 32	
		29,202 85
Clothing and materials: —		
Boots, shoes and rubbers,	\$33 00	
Clothing,	94 53	
Dry goods for clothing and small wares,	4 08	
Furnishing goods,	6 35	
Sundries,	5 73	
		143 69
Furnishings: —		
Beds, bedding, table linen, etc.,	\$906 36	
Brushes, brooms,	122 43	
Carpets, rugs, etc.,	57 02	
Crockery, glassware, cutlery, etc.,	349 02	
Furniture and upholstery,	306 99	
Kitchen furnishings,	310 21	
Materials and machinery for manufacturing,	305 66	
Wooden ware, buckets, pails, etc.,	175 67	
Sundries,	205 05	
		2,738 41
Heat, light and power: —		
Coal,	\$3,835 50	
Freight on coal,	1,220 73	
Teaming coal,	107 78	
Electricity,	14 86	
Oil,	116 42	
Sundries,	53 43	
		5,348 72
Repairs and improvements: —		
Brick,	\$187 25	
Cement, lime and plaster,	196 68	
Doors, sashes, etc.,	26 52	
Electrical work and supplies,	196 26	
Hardware,	420 89	
Lumber,	346 89	
Paints, oil, glass, etc.,	344 68	
Plumbing, steam fitting and supplies,	660 77	
Roofing and materials,	11 00	
Sundries,	874 11	
		3,265 05
<i>Amount carried forward,</i>		\$77,680 58

Amount brought forward,		\$77,680 58
Farm, stable and grounds:—		
Blacksmith and supplies,	\$145 50	
Carriages, wagons, etc., and repairs,	15 20	
Fertilizers, vines, seeds, etc.,	876 62	
Hay, grain, etc.,	1,248 78	
Harnesses and repairs,	43 50	
Horses,	550 00	
Other live stock,	141 00	
Tools, farm machines, etc.,	146 31	
Sundries,	431 91	
		<hr/>
		3,598 82
Religious services,		1,370 00
Miscellaneous:—		
Books, periodicals, etc.,	\$46 07	
Cuspidor supplies,	656 22	
Entertainments,	146 36	
Freight, expressage and transportation,	681 99	
Funeral expenses,	15 00	
Hose, etc.,	56 42	
Medicines and hospital supplies,	1,072 43	
Medical attendance, nurses, etc. (extra),	74 00	
Postage,	188 20	
Printing and printing supplies,	441 98	
Soap and laundry supplies,	333 04	
Stationery and office supplies,	432 72	
Travel and expenses (officials),	311 44	
Telephone and telegraph,	277 46	
Tobacco,	4 16	
Sundries,	913 32	
		<hr/>
		5,650 81
Total expenses for maintenance,		<hr/>
		\$88,300 21

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1913,		\$8,038 88
Appropriations for fiscal year,		6,884 00
		<hr/>
Total,		\$14,922 88
Expended during the year (see statement annexed),	\$13,001 70	
Reverting to treasury of Commonwealth,	1 13	
		<hr/>
		13,002 83
		<hr/>
Balance Nov. 30, 1914,		\$1,920 05

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,189 83	
November cash vouchers (paid from advance money): —		
Account of maintenance,	\$4,752 42	
Account of special appropriations,	57 75	
	<hr/>	4,810 17
Due from treasury of Commonwealth account of		
November, 1914, schedule,	2,055 92	
	<hr/>	\$8,055 92
<i>Liabilities.</i>		
Schedule of November bills,		\$8,055 92

PER CAPITA.

During the year the average number of inmates has been 194.53.

Total cost of maintenance, \$88,300.21.

Equal to a weekly per capita cost of \$8.7291.

Receipt from sales, \$815.87.

Equal to a weekly per capita of \$0.0807.

All other institution receipts, \$21,110.21.

Equal to a weekly per capita of \$2.087.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Land, spur track, etc.,	Acts 1910, chap. 114	\$1,000 00	\$947 60	\$1,000 00	—
Pavilion,	Acts 1913, chap. 133	6,224 62	3,618 32	6,224 24	\$0 38 ¹
Dining-room alterations,	Acts 1913, chap. 133	6,703 31	3,415 87	6,703 02	29 ¹
Drainage of grounds, road repairs, etc.,	Acts 1913, chap. 133	1,500 00	55 96	1,499 54	46 ¹
Addition to administration building,	Acts 1914, chap. 90	3,000 00	2,538 43	2,538 43	461 57
Building for farm implements,	Acts 1914, chap. 90	800 00	587 88	587 88	212 12
Coal bin,	Acts 1914, chap. 90	500 00	491 28	491 28	8 72
Water tank,	Acts 1914, chap. 90	2,584 00	1,346 36	1,346 36	1,237 64
		\$22,311 93	\$13,001 70	\$20,390 75	\$1,920 05

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

CARL C. MACCORISON,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

Real estate: —

Land, number of acres, 101,	\$4,901 30
Buildings,	92,660 38
Power plant, laundry, machinery, heating, water and sewerage systems, and improvements,	31,807 31
Total,	<hr/> \$129,368 99

Personal estate: —

	1913,	1914,
Food,	\$2,766 52	\$2,550 55
Clothing,	224 17	422 60
Furnishings,	19,048 30	21,535 12
Heat, light and power,	3,549 23	5,537 08
Repairs and improvements,	1,976 81	1,069 14
Farm, stable and grounds,	6,295 05	6,900 23
Miscellaneous,	6,315 05	6,259 75
Total,	<hr/> \$39,377 80	<hr/> \$44,274 47

PRODUCTS OF THE FARM AND GARDENS.

Apples, firsts and seconds, 29½ barrels,	\$49 25
Beans, string, 60 ⁷ / ₃₂ bushels,	51 18
Beans, dry, 15 bushels,	39 75
Beets, 32 ³ / ₄ bushels,	19 65
Beet greens, 3 bushels,	1 20
Beets, mangel, 13 bushels,	3 25
Broilers, 505 ³ / ₄ pounds,	136 55
Cabbage, 38.51 hundredweight,	25 03
Canteloupes or muskmelons, 9 crates,	9 00
Carrots, 118 ³ / ₄ bushels,	71 25
Chard, Swiss, 21 bushels,	8 40
Chickens, roast, 387 pounds,	92 88
Clover and oats, 1½ tons,	15 00
Corn, sweet, 96 ¹ / ₄ bushels,	57 72
Corn stalks, 8 loads,	8 00
Cucumbers, table use, 24 boxes,	24 00
Cucumbers, small, for pickles, 64 pecks,	22 40
Ducks, 12 pounds,	2 04
Eggs, 1,906 ¹ / ₆ dozens,	476 54
Fowl, 1,234 pounds,	209 78
Hay, meadow, 4 tons,	44 00
Lettuce, 12½ boxes (10 ounces seed at 10 cents, \$1),	4 13
Manure, stable, 21.66 cords,	129 96
Manure, hen, 17 ¹ / ₄ barrels,	13 00
Onions, 190 bushels,	114 00
Parsley, ½ bushel,	18
Parsnips, 17½ bushels,	11 38
Peas, green, 23½ bushels,	47 00
Peas, seed, ²⁵ / ₃₂ bushel,	3 90
Peppers, green, ¹ / ₃₂ bushel,	02
Pork, 7,939 pounds,	952 68
Pumpkins, 810 hundredweight,	12 15
Rape, 24½ bushels,	1 12
Rape seed, 10 ounces,	1 50
Spinach, 8 bushels,	2 80
Squash, winter, 26.25 hundredweight,	26 25
Strawberries, 277 quarts,	33 24
Tomatoes, ripe, 29 bushels,	29 00
Turnips, 15 bushels,	11 25
Watermelons, 1.62 hundredweight,	24 30
Wood, 8 cords,	40 00
<hr style="width: 20%; margin: 10px auto;"/>	
Total,	\$3,223 16

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year,	95	86	181
Number received during the year,	244	100	344
Number discharged or died during the year,	227	99	326
Number at end of the fiscal year,	112	87	199
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	108.21	86.32	194.53
Average number of officers and employees during the year,	41.06	35.41	76.47

Expenditures.

Current expenses: —

1. Salaries and wages,	\$36,981 86	
2. Clothing,	143 69	
3. Subsistence,	34,551 57	
4. Ordinary repairs,	3,265 05	
5. Office, domestic and outdoor expense,	13,358 04	
		\$88,300 21

Extraordinary expenses: —

1. Land, spur track, etc.,	\$947 60	
2. Pavilion,	3,618 32	
3. Dining-room alterations,	3,415 87	
4. Drainage of grounds, road repairs, etc.,	55 96	
5. Addition to administration building,	2,538 43	
6. Building for farm implements,	587 88	
7. Coal bin,	491 28	
8. Water tank,	1,346 36	
		13,001 70

Total, \$101,301 91

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1913,	95	86	181
Number of patients admitted Dec. 1, 1913, to Nov. 30, 1914, inclusive.	244	100	344
Number discharged Dec. 1, 1913, to Nov. 30, 1914, inclusive, .	227	99	326
Number deaths (included in preceding item),	48	19	67
Number remaining in sanatorium Nov. 30, 1914,	112	87	199
Daily average number of patients,	108.21	86.32	194.53

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	118	46	164
Single,	115	42	157
Widowed,	6	11	17
Divorced,	5	1	6
Totals,	244	100	344

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	13	9	29
20 to 30 years,	78	37	115
30 to 40 years,	93	24	117
40 to 50 years,	42	23	65
Over 50 years,	18	7	25
Totals,	244	100	344

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	102	30	28	39	9	7	141	39	35
Other New England States,	13	11	10	6	7	5	19	18	15
Other States,	6	4	4	5	2	3	11	6	7
Total native,	121	45	42	50	18	15	171	63	57
Other countries: —									
Austria,	3	4	4	1	1	1	4	5	5
Belgium,	1	1	1	—	—	—	1	1	1
Canada,	18	30	35	12	15	19	30	45	54
England,	3	7	4	2	1	2	5	8	6
Finland,	3	3	3	1	1	1	4	4	4
Germany,	3	6	6	—	2	2	3	8	8
Greece,	2	2	2	—	—	—	2	2	2
Hungary,	2	1	1	1	1	1	3	2	2
Ireland,	25	72	72	13	34	32	38	106	104
Italy,	6	9	7	—	—	—	6	9	7
Japan,	1	1	1	—	—	—	1	1	1
Newfoundland,	3	3	3	1	—	1	4	3	4
Norway,	—	—	—	—	1	—	—	1	—
Poland,	2	1	1	—	—	—	2	1	1
Portugal,	1	2	2	1	1	1	2	3	3
Scotland,	3	5	6	2	4	4	5	9	10
Spain,	1	—	—	—	—	—	1	—	—
Sweden,	7	7	7	2	4	3	9	11	10
Syria,	2	3	3	2	2	2	4	5	5
Turkey,	1	1	1	—	—	—	1	1	1
Total foreign,	123	194	195	50	81	84	173	275	279
Unknown,	—	5	7	—	1	1	—	6	8
Totals,	244	244	244	100	100	100	344	344	344

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Amesbury,	2	Marlborough,	1
Andover,	3	Medford,	3
Arlington,	2	Melrose,	2
Athol,	2	Milford,	1
Attleborough,	1	Milton,	1
Beverly,	2	Nahant,	1
Boston,	134	Natick,	1
Brookline,	3	New Bedford,	3
Cambridge,	3	Newburyport,	4
Chelsea,	14	Newton,	1
Chicopee,	1	North Easton,	1
Concord,	1	Peabody,	3
Dedham,	1	Provincetown,	1
Dudley,	1	Quincy,	1
Erving,	1	Revere,	7
Everett,	11	Rockport,	1
Fall River,	1	Salem,	3
Fitchburg,	1	Saugus,	1
Framingham,	1	Somerville,	14
Gardner,	1	Taunton,	2
Gloucester,	5	Wakefield,	2
Greenfield,	1	Waltham,	2
Haverhill,	10	Watertown,	1
Ipswich,	1	Waverley,	1
Lawrence,	3	Webster,	1
Leominster,	4	Wellesley,	1
Lexington,	2	Winchendon,	1
Lowell,	29	Winchester,	4
Lynn,	17	Worcester,	5
Malden,	16	Total,	344

TABLE 6. — *Occupation of Cases admitted.*

	Males.	Females.		Males.	Females.
Agent,	2	—	Laborer,	20	—
Barber,	1	—	Leather worker,	1	—
Blacksmith,	4	—	Lineman,	1	—
Bookkeeper,	—	2	Machinist,	15	—
Box maker,	—	1	Mechanic,	1	—
Brass worker,	1	—	Mill operative (cotton),	12	—
Cap maker,	3	—	Miscellaneous,	9	—
Carpenter,	8	—	Molder,	3	—
Chauffeur,	3	—	Optician,	1	—
Cigar maker,	3	—	Painter,	7	—
Clerk,	19	7	Peddler,	9	—
Conductor,	1	—	Plumber,	3	—
Cook,	4	—	Policeman,	1	—
Diamond polisher,	1	—	Porter,	3	—
Domestic,	1	7	Printer,	6	—
Draftsman,	1	—	Salesman,	7	—
Dressmaker,	—	6	Seaman,	5	—
Dyer,	2	—	Shoemaker,	16	1
Electrician,	1	—	Stone cutter,	1	—
Elevator operator,	3	—	Storekeeper,	—	1
Factory worker,	5	14	Street railroad employee,	5	—
Farmer,	2	—	Student,	2	4
Fireman,	1	—	Tailor,	12	—
Florist,	5	—	Teamster,	15	—
Glass blower,	2	1	Undertaker,	1	—
Glazier,	1	—	Waiter,	7	2
Hatter,	1	—	Watchman,	2	—
Housewife,	—	54	Wood carver,	3	—
Jeweler,	1	—	Totals,	244	100

TABLE 7. — *Condition of Admission.*

	Males.	Females.	Totals.
Incipient,	5	8	13
Moderately advanced,	62	31	93
Advanced,	176	59	235
Not tubercular,	1	1	2
Not determined,	—	1	1
Totals,	244	100	344

TABLE 8. — *Condition of Discharge.*

	Males.	Females.	Totals.
Arrested,	10	3	13
Apparently arrested,	9	10	19
Quiescent,	43	20	63
Improved,	53	27	80
Unimproved,	31	10	41
Died,	48	19	67
Not considered (duration of stay less than one month),	32	8	40
Not tubercular,	1	2	3
Totals,	227	99	326

TABLE 9. — *Deaths.*

DURATION OF DISEASE.	Males.	Females.	Totals.	LENGTH OF RESIDENCE IN SANATORIUM.		
				Males.	Females.	Totals.
Under 1 month,	1	1	2	9	1	10
1 to 2 months,	—	—	—	8	1	9
2 to 3 months,	—	—	—	8	2	10
3 to 4 months,	1	—	1	4	2	6
4 to 5 months,	—	—	—	3	—	3
5 to 6 months,	—	—	—	1	1	2
6 to 7 months,	1	—	1	2	—	2
7 to 8 months,	3	—	3	2	2	4
8 to 9 months,	1	1	2	2	2	4
9 to 10 months,	1	—	1	2	—	2
10 to 12 months,	1	1	2	1	3	4
12 to 18 months,	13	1	14	1	1	2
18 to 24 months,	2	3	5	1	2	3
Over 2 years,	24	12	36	4	2	6
Totals,	48	19	67	48	19	67

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis,	46	19	65
Bronchiectasis,	1	—	1
Arteriosclerosis,	1	—	1
Totals,	48	19	67

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D.,	.	.	<i>Superintendent.</i>
EDSON W. GLIDDEN, M.D.,	.	.	<i>Assistant Superintendent and Physician.</i>
GEORGE M. SULLIVAN, M.D.,	.	.	<i>Physician.</i>

Mrs. ELVIE DUPEE,	.	.	.	.	.	.	<i>Matron.</i>
LESTON P. GIDDINGS,	.	.	.	.	.	.	<i>Steward.</i>
CLARENCE E. JACKSON,	.	.	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM G. ATKINSON,	.	.	.	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:— I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1914.

The total number of patients cared for during 1914 was 725, of which number 214 were remaining in the sanatorium Dec. 1, 1913, 511 having been admitted during the year.

The classification of cases on admission remains about the same as in former years, 4 cases, or 1 per cent., being found incipient, 221, or 43 per cent., moderately advanced, 270, or 53 per cent., advanced, 15, or 3 per cent., not considered, and 1 not tubercular. Although the number of local municipal hospitals for advanced cases is constantly increasing, there is as yet no appreciable diminution in the percentage of advanced cases sent to this sanatorium.

Boston contributed her usual large proportion of cases admitted, 48 per cent.; Brockton sent us 6 per cent., Fall River 6 per cent., New Bedford 3 per cent., and Taunton 2 per cent.

The percentage of cases maintained by private funds continues to dwindle, only 6 per cent. of the 725 cases treated during the year being so classified, while cities and towns supported 416, or 57 per cent., and the Commonwealth assumed the expense of 198, or 27 per cent. Settlements of the remaining 72, or 10 per cent., have not been determined.

The average residence at the sanatorium of patients discharged during the year was $164\frac{1}{2}$ days, the longest stay being 1,436 days.

Of the 388 discharged, 293 made an average gain of $10\frac{3}{4}$ pounds and 69 lost weight. The greatest individual gain was $54\frac{1}{4}$ pounds.

The division of our patients into the sanatorium and hospital classes, the former being made up of those patients who wished to get well and to co-operate in every way with the sanatorium treatment, and the latter of those whose mental attitude toward treatment was not co-operative, has proved to be more or less of a moral support to the patients as a whole in adapting themselves to the requirements of sanatorium treatment, but does not seem to afford any definite information as to the comparative results of treatment in the two classes. It has been shown that the patient's tendency to break away from treatment, and to treat lightly the restrictions of sanatorium life, is in direct proportion to the amount of improvement he has made, so that the respective degrees of improvement made in the two classes, when represented in figures, seem rather unfair to the conscientious patient.

Of the total number of the 480 patients discharged, 100 men and 35 women were in the hospital class at the time of discharge. Many of these were patients who had improved sufficiently to feel careless of treatment, and, acting accordingly, were transferred to the hospital class after considerable improvement had been made.

The treatment as outlined in my report for 1913 has been continued without appreciable change.

IMPROVEMENTS.

The additions of private rooms to the wards and the new pavilion have made possible a daily average of 245 patients for the year, or 5 more than was estimated. Had our estimate for maintenance not been severely cut, a still higher daily average could have been maintained, as several of our tents were not used.

By the strictest economy in all departments, by foregoing intended improvements, by purchasing only sufficient coal for the year then current, and by producing as much food as possible on the farm, the institution was maintained at a weekly net per capita cost of \$8.39. This should not be considered normal, for deferred improvements, if important, grow more expensive, and more than the normal amount must be appropriated in subsequent years.

The estimated weekly per capita, \$9.08, for 1915 is thought necessary to make up for an apparently economical administration of 1914. The average of the two, \$8.73, is rather below normal for our institution.

The construction of the new bakery and refrigerator is practically completed, and the bakery is now in use although all the apparatus is not yet installed. This new construction made possible an enlargement of the patients' serving room and the installation of a new dishwasher, which is adequate for our needs.

Of the special appropriation for extension of sewage disposal, \$687.55 has been spent in constructing 3,151 lineal feet of sub-soil trenches, and concrete covers have been made for three large cesspools. Additional work is contemplated during the coming season.

FARM, STABLE AND GROUNDS.

An accurate estimate of the value of our farming operations of 1914 is well-nigh impossible under the existing conditions. A most exacting system of farm accounting has been instituted in all State institutions, calling for detailed accounts of a more or less theoretical cost of production, and a similar schedule of values, not actual market prices, has been established by a committee having no direct connection with the sanatoria, for the purpose of comparison only. Using this prescribed schedule of prices as a basis of estimating the success of the sanatorium farm, we can report the production of usable products worth \$9,338.11. In this connection it is worthy of note that during the last half of the year, when our own farm grown vegetables were plentiful, the daily per capita cost of meat was 1½ cents less than during the preceding six months.

The work of grading and landscaping the grounds has been continued as rapidly as available funds would allow.

IMPROVEMENTS RECOMMENDED.

I again recommend the establishment of a dairy at the sanatorium. Last year the same recommendation was approved by your Board, by the State Board of Charity, by the committee on charitable institutions, and by many individuals who were

informed of the conditions under which the sanatorium is supplied with milk (it had previously been approved by the head of the department of farm administration at Amherst Agricultural College), but the necessary appropriation was not granted.

This measure is urged as a business proposition, as it is believed that an appreciable saving can be accomplished thereby. That it should be done at once is strongly suggested by the promptness with which available land near by the sanatorium is being taken up by those who openly assert that they are investing in land which the sanatorium will need later. An appropriation of \$18,300 is requested for this purpose. The yearly cost of milk to the institution at the present rate of consumption, 60 cans per day at 55 cents per can, is \$12,045.

The purchase of land and the construction of a coal trestle, or elevated siding, is urgently recommended, as last year, for the more economical handling of our coal supply. Not having adequate space for storing a winter's supply of coal, we are handicapped by the necessity of buying coal in small quantities and carting it car by car as it arrives at Middleborough. The estimated cost of the trestle is \$2,500, and the price of the land involved is \$1,500, making a total of \$4,000.

MEDICAL SERVICE.

In January a vacancy on the medical staff was caused by the resignation of Dr. Francis A. Carey, whose place was filled in May by the appointment of Dr. George M. Sullivan of the University of Vermont Medical School, 1908. He brings to the work loyalty, enthusiasm and good sense, which insures his success as an institution man.

ACKNOWLEDGMENTS.

I take great pleasure in informing your Board that the attitude of the people of Middleborough and Lakeville toward the sanatorium has grown to be one of confidence and friendliness. It has been our purpose always to respect their wishes and opinions, and they have manifested their growing interest in our work in many ways, especially by gifts of books, of periodicals, and by furnishing many entertainments for our patients.

The faithfulness of the Catholic, Protestant and Jewish chaplains and their hearty co-operation with the administration of the institution have been most gratifying and are heartily appreciated.

Whatever measure of success has been attained in the year's work I credit largely to the enthusiastic co-operation of my employees in our efforts for an economical and efficient administration, and to the continued confidence of your Board.

Respectfully submitted,

SUMNER COOLIDGE,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1914:—

CASH ACCOUNT.			
Balance Dec. 1, 1913,	.	.	\$973 48
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates:—			
Private,	.	\$2,380 57	
Cities and towns,	.	21,883 31	
Other reimbursements, charitable (collected by State Treasurer),	.	220 00	
			\$24,483 88
Sales:—			
Food,	.	\$658 00	
Clothing and materials,	.	57 43	
Furnishings,	.	33 23	
Miscellaneous,	.	18 15	
Farm, stable and grounds:—			
Pigs and hogs,	\$74 50		
Vegetables,	18 86		
Sundries,	182 29		
		275 65	
			1,042 46
Miscellaneous receipts:—			
Interest on bank balances,	.	\$158 62	
Sundries,	.	43 71	
			202 33
			25,728 67
<i>Receipts from Treasury of Commonwealth.</i>			
Maintenance appropriations:—			
Balance of 1913,	.	\$1,800 00	
Advance money (amount on hand November 30),	.	7,000 00	
Approved schedules of 1914,	.	100,010 72	
			108,810 72
Special appropriations,	.		9,740 77
Total,	.		\$145,253 64

Payments.

To treasury of Commonwealth, institution receipts,	\$25,728 67	
Maintenance appropriations: —		
Balance November schedule, 1913,	\$2,773 48	
Eleven months' schedules, 1914,	100,010 72	
November advances,	4,134 93	
	<hr/>	106,919 13
Special appropriations: —		
Approved schedules,		9,740 77
Balance Nov. 30, 1914: —		
In bank,	\$1,841 06	
In office,	1,024 01	
	<hr/>	2,865 07
Total,		\$145,253 64

MAINTENANCE.

Appropriation,	\$108,270 00
Expenses (as analyzed below),	108,229 54
	<hr/>
Balance reverting to treasury of Commonwealth,	\$40 46

Analysis of Expenses.

Salaries, wages and labor: —		
Sumner Coolidge, M.D., superintendent,	\$2,500 00	
General administration,	19,535 11	
Medical service,	2,322 11	
Ward service (male),	3,079 66	
Ward service (female),	4,191 53	
Repairs and improvements,	2,203 19	
Farm, stable and grounds,	8,145 82	
	<hr/>	\$41,977 42
Food: —		
Butter,	\$1,881 11	
Butterine,	11 29	
Beans,	106 15	
Bread and crackers,	92 63	
Cereals, rice, meal, etc.,	360 57	
Cheese,	68 52	
Eggs,	1,661 44	
Flour,	923 00	
Fish,	806 72	
Fruit (dried and fresh),	1,301 30	
Lard,	135 22	
Meats,	13,003 91	
Milk,	11,534 63	
Molasses and syrup,	59 02	
Spices, seasonings, salt, etc.,	231 93	
Sugar,	950 91	
Tea, coffee, broma and cocoa,	439 66	
	<hr/>	
Amounts carried forward,	\$33,568 01	\$41,977 42

<i>Amounts brought forward,</i>	\$33,568 01	\$41,977 42
Food — <i>Con.</i>		
Vegetables,	1,192 09	
Yeast,	11 82	
Sundries,	452 92	
	<hr/>	35,224 84
Clothing and materials: —		
Boots, shoes and rubbers,	\$23 55	
Clothing,	35 06	
Dry goods for clothing and small wares,	12 13	
	<hr/>	70 74
Furnishings: —		
Beds, bedding, table linen, etc.,	\$2,309 00	
Brushes, brooms,	256 39	
Carpets, rugs, etc.,	258 49	
Crockery, glassware, cutlery, etc.,	564 95	
Furniture and upholstery,	907 74	
Kitchen furnishings,	373 92	
Wooden ware, buckets, pails, etc.,	4 48	
Sundries,	1,073 21	
	<hr/>	5,748 18
Heat, light and power: —		
Coal,	\$5,684 99	
Freight on coal,	531 59	
Oil,	85 27	
Sundries,	233 80	
	<hr/>	6,535 65
Repairs and improvements: —		
Brick,	\$27 15	
Cement, lime and plaster,	66 31	
Doors, sashes, etc.,	127 35	
Electrical work and supplies,	510 52	
Hardware,	432 49	
Lumber,	487 70	
Tents,	68 16	
Paints, oil, glass, etc.,	673 15	
Plumbing, steam fitting and supplies,	1,290 60	
Roofing and materials,	16 69	
Sundries,	1,019 81	
	<hr/>	4,719 93
Farm, stable and grounds: —		
Blacksmith and supplies,	\$178 90	
Carriages, wagons, etc., and repairs,	571 77	
Fertilizers, vines, seeds, etc.,	1,791 42	
Hay, grain, etc.,	1,855 98	
Harnesses and repairs,	126 52	
Other live stock,	742 26	
Rent,	368 38	
Taxes,	44 88	
Tools, farm machines, etc.,	253 17	
Sundries,	316 58	
	<hr/>	6,249 86
Religious services,		1,224 60
		<hr/>
<i>Amount carried forward,</i>		\$101,751 22

Amount brought forward, \$101,751 22

Miscellaneous: —

Books, periodicals, etc.,	\$136 83	
Cuspidor supplies,	486 65	
Entertainments,	234 99	
Freight, expressage and transportation,	835 99	
Funeral expenses,	61 00	
Refrigeration,	155 90	
Ice,	2 50	
Medicines and hospital supplies,	1,881 18	
Medical attendance, nurses, etc., and dentistry,	6 25	
Postage,	205 00	
Printing and printing supplies,	305 27	
Investigation of water supply,	488 07	
Soap and laundry supplies,	357 90	
Stationery and office supplies,	445 45	
Travel and expenses (officials),	495 49	
Telephone and telegraph,	244 57	
Tobacco,	13 14	
Water,	6 89	
Sundries,	115 25	
		6,478 32
Total expenses for maintenance,		\$108,229 54

SPECIAL APPROPRIATION.

Balance Dec. 1, 1913,	\$6,955 97	
Appropriations for fiscal year,	4,700 00	
Total,		\$11,655 97
Expended during the year (see statement annexed),	\$9,740 77	
Reverting to treasury of Commonwealth,	04	
		9,740 81
Balance Nov. 30, 1914,		\$1,915 16

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$2,865 07	
November cash vouchers (paid from advance money), account of maintenance,	4,134 93	
Due from treasury of Commonwealth account of November, 1914, schedule,	1,218 82	
		\$8,218 82

Liabilities.

Schedule of November bills,	\$8,218 82
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PER CAPITA.

During the year the average number of inmates has been 245.45.

Total cost for maintenance, \$108,229.54.

Equal to a weekly per capita cost of \$8.4797.

Receipt from sales, \$1,042.46.

Equal to a weekly per capita of \$0.0817.

All other institution receipts, \$24,686.21.

Equal to a weekly per capita of \$1.9341.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Pavilion,	Res. 1913, chap. 133	\$13,000 00	\$4,989 22	\$12,999 96	\$0 04 ¹
Laboratory,	Res. 1913, chap. 133	1,000 00	295 83	588 55	411 45
Bakery, porch, etc.,	Res. 1914, chap. 89	3,500 00	2,336 54	2,336 54	1,163 46
Screens,	Res. 1914, chap. 89	200 00	172 20	172 20	27 80
Sewerage system,	Res. 1914, chap. 148	1,000 00	687 55	687 55	312 45
Additions to wards,	Res. 1913, chap. 133	6,000 00	1,259 43	6,000 00	-
		\$24,700 00	\$9,740 77	\$22,784 80	\$1,915 16

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

SUMNER COOLIDGE,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

Real estate:—

Land, number of acres, 75,	\$7,267 75
Buildings,	121,179 50
Power plant, laundry, machinery, heating, water and sewerage systems and improvements,	21,766 96
<hr/>	
Total real estate valuation,	\$150,214 21

Personal estate:—

Food,	\$2,316 63
Clothing,	215 97
Furnishings,	23,823 94
Heat, light and power,	707 56
Repairs and improvements,	1,958 75
Farm, stable and grounds,	10,583 83
Miscellaneous,	3,489 31
<hr/>	
Total personal property,	\$43,095 99

FARM PRODUCE.

Eggs, 4,435 $\frac{3}{4}$ dozen, at \$0.25,	\$1,108 94
Asparagus, 7 bushels, at \$4,	28 00
Beets, 136 $\frac{1}{8}$ bushels, at \$0.60,	81 90
Beans, Lima, 26 $\frac{1}{4}$ bushels, at \$1.60,	42 00
Beans, string, 124 $\frac{1}{4}$ bushels, at \$0.85,	105 61
Beans, seed, 3 $\frac{1}{2}$ bushels, at \$6,	21 00
Cabbage, 25,662 pounds, at \$13 per ton,	166 80
Carrots, 104 $\frac{1}{2}$ pounds, at \$0.60,	62 70
Celery, 97 $\frac{1}{4}$ pounds, at \$0.75,	72 94
Corn, sweet, 576 pounds, at \$0.60,	345 60
Corn, sweet, seed, 277 ears, at \$0.04,	11 08
Corn, sweet, Potter's Exc., 441 ears, at \$0.04,	17 64
Corn, yellow, seed, 484 pounds, at \$0.03 $\frac{1}{2}$,	16 94
Corn stalks, 17 $\frac{1}{2}$ tons, at \$3,	52 50
Cucumbers, 1,463, at \$0.01 each,	14 63
Kohl-rabi, 15 bushels, at \$0.45,	6 75
Lettuce, 172 bushels, at \$0.25,	43 00
Onions, 80 $\frac{1}{4}$ bushels, at \$0.60,	48 15
Parsley, 1 bushel, at \$0.35,	35
Parsnips, 14 bushels, at \$0.65,	9 10
Peas, 80 $\frac{7}{16}$ bushels, at \$2,	160 88
Potatoes, 927 $\frac{1}{2}$ bushels, at \$0.55,	510 13
Potatoes, seed, 81 bushels, at \$0.55,	44 55
Pumpkins, 4,550 pounds, at \$0.01 $\frac{1}{2}$,	68 25
Radishes, 93 $\frac{1}{2}$ bushels, at \$0.75,	70 13
Rhubarb, 691 pounds, at \$0.01,	6 91
Spinach, 161 bushels, at \$0.35,	56 35
Squash, summer, 21 $\frac{1}{2}$ barrels, at \$0.60,	12 90
Squash, winter, 13,950 pounds, at \$0.01,	139 50
Swiss chard, 50 bushels, at \$0.40,	20 00
Tomatoes, 283 bushels, at \$1,	284 42
Tomato plants, 250, at \$0.02 each,	5 00
Turnips, 199 $\frac{1}{4}$ bushels, at \$0.75,	149 44
Apples, 11 $\frac{1}{2}$ barrels, at \$1.50 to \$2,	19 85
Cherries, 12 $\frac{2}{3}$ quarts, at \$0.12,	1 52
Currants, 411 quarts, at \$0.05,	20 55
Cantaloupes, 9 $\frac{4}{5}$ crates, at \$1,	9 91
Grapes, 525 pounds, at \$0.04,	21 00
Raspberries, 1,249 pints, at \$0.09,	112 41
Strawberries, 663 quarts, at \$0.12,	79 56
Watermelons, 19, at \$0.15 each,	2 85
Quince, $\frac{1}{2}$ bushel, at \$1.75,	88
Blueberries, 30 quarts, at \$0.14,	4 20
Pork, 4,458 pounds, at \$0.12,	534 96
Fowl, 869 pounds, at \$0.17,	147 73

Chicken, 4,218 pounds, at \$0.24,	. . . . .	\$1,012 32
Broilers, 30 pounds, at \$0.27, .	. . . . .	8 10
Hay, No. 1, 52½ tons, at \$20.75,	. . . . .	1,089 38
Hay, meadow, 5½ tons, at \$10,	. . . . .	55 00
Straw, rye, 6 tons, at \$15,	. . . . .	90 00
Rye, 67 bushels, at \$1.25,	. . . . .	83 75
Yellow corn, 117 bushels, at \$0.80,	. . . . .	93 60
Pigs, 42,	. . . . .	647 00
Chickens, 1,072,	. . . . .	1,032 00
Roosters, 44, at \$1 each,	. . . . .	44 00
Manure (pig), 13 cords, at \$5, .	. . . . .	65 00
Manure (horse), 35 cords, at \$5,	. . . . .	175 00
Manure (hen), 96 barrels, at \$0.75,	. . . . .	72 00
Sand dressing, 131 loads, at \$1,	. . . . .	131 00
Total, . . . . .	. . . . .	<hr/>\$9,337 66

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	132	82	214
Number received during the year,	358	153	511
Number discharged or died during the year,	333	147	480
Number at end of fiscal year,	157	88	245
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	159	86	245
Average number of officers and employees during the year, .	57	25	82

Expenditures.

Current expenses:—

1. Salaries and wages,	\$41,977 42
2. Clothing,	70 74
3. Subsistence,	35,224 84
4. Ordinary repairs and improvements,	4,719 93
5. Office, domestic and outdoor expenses,	26,236 61

Total,	\$108,229 54
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Extraordinary expenses:—

1. New buildings, land, etc.,	\$4,989 22
2. Permanent improvements to existing buildings and grounds,	4,751 55

Total,	\$9,740 77
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Grand total,	\$117,970 31
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Summary of Current Expenses.

Total expenditures,	\$117,970 31
Deducting extraordinary expenses,	9,740 77
	<hr/>
	\$108,229 54
Deducting amount of sales,	1,042 46
	<hr/>
	\$107,187 08

Dividing this amount by the daily average number of patients, 245.45, gives a cost for the year of \$436.69, equivalent to an average weekly net cost of \$8.39.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted, Dec. 1, 1913, to Nov. 30, 1914, inclusive.	358	153	511
Number of patients discharged, Dec. 1, 1913, to Nov. 30, 1914, inclusive.	260	128	388
Number of deaths (included in preceding item),	73	19	92
Number remaining in sanatorium, Nov. 30, 1914,	157	88	245
Daily average number of patients,	159	86	245
Daily average number of bed patients, Dec. 1, 1913, to Nov. 30, 1914.	41	34	75

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	156	90	246
Single,	185	52	237
Widowed,	16	11	27
Divorced,	1	—	1
Totals,	358	153	511

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	39	20	59
20 to 30 years,	120	62	182
30 to 40 years,	92	46	138
40 to 50 years,	76	23	99
Over 50 years,	31	2	33
Totals,	358	153	511

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States:—									
Massachusetts,	152	50	38	67	23	20	219	73	58
Other New England States,	15	10	16	13	7	6	28	17	22
Other States,	12	9	9	6	7	9	18	16	18
Total native,	179	69	63	86	37	35	265	106	98
Other countries:—									
Armenia,	2	2	2	—	—	—	2	2	2
Australia,	2	—	—	—	—	—	2	—	—
Austria,	3	2	2	1	1	2	4	3	4
Azores,	1	4	4	—	1	1	1	5	5
Belgium,	1	1	1	—	—	—	1	1	1
Canada,	22	38	44	13	21	29	35	59	73
England,	10	15	9	2	7	6	12	22	15
Finland,	4	4	4	2	2	2	6	6	6
France,	—	—	—	2	1	—	2	1	—
Germany,	4	11	10	3	5	5	7	16	15
Greece,	1	1	1	1	1	1	2	2	2
Ireland,	41	99	105	13	31	30	54	130	135
Italy,	19	21	21	5	5	6	24	26	27
Japan,	1	1	1	—	—	—	1	1	1
Norway,	3	3	3	—	—	—	3	3	3
Poland,	3	3	3	—	—	—	3	3	3
Portugal,	5	7	7	3	5	5	8	12	12
Roumania,	4	4	4	—	—	—	4	4	4
Russia,	42	47	46	16	17	16	58	64	62
Scotland,	2	3	7	—	4	2	2	7	9
Servia,	—	—	—	1	1	1	1	1	1
Spain,	2	2	2	—	—	—	2	2	2
Sweden,	2	2	2	5	6	8	7	8	10
Syria,	2	3	3	—	—	—	2	3	3
Turkey,	2	2	2	—	—	—	2	2	2
West Indies,	1	1	1	—	—	—	1	1	1
Total foreign,	179	276	284	67	108	114	246	384	398
Unknown,	—	13	11	—	8	4	—	21	15
Totals,	358	358	358	153	153	153	511	511	511

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Number.	CITIES AND TOWNS.	Number.
Amherst,	1	Melrose,	1
Arlington,	5	Middleborough,	2
Attleborough,	16	Milford,	7
Auburn, N. H.,	1	Millbury,	1
Avon,	1	Milton,	2
Belmont,	1	Nahant,	1
Boston,	246	Nantucket,	1
Bourne,	1	Needham,	1
Bridgewater,	6	New Bedford,	14
Brockton,	33	Newton,	3
Brookline,	3	Norfolk,	1
Cambridge,	1	Northfield,	1
Canton,	1	Oxford,	1
Chelsea,	4	Peabody,	1
Cohasset,	4	Plymouth,	5
Concord, N. H.,	1	Provincetown,	3
Dartmouth,	1	Quincy,	14
Dedham,	5	Revere,	1
Dighton,	1	Rockland,	2
Eastham,	1	Salem,	1
Fairhaven,	3	Saugus,	1
Fall River,	32	Sharon,	1
Framingham,	1	Somerset,	1
Gloucester,	1	Somerville,	3
Grafton,	1	Southborough,	1
Haverhill,	1	Southbridge,	1
Hingham,	1	Swansea,	1
Hyannis,	1	Taunton,	8
Ipswich,	1	Uxbridge,	2
Lancaster,	1	Wakefield,	5
Leominster,	1	Walpole,	2
Lowell,	1	Waltham,	1
Lynn,	1	Watertown,	4
Malden,	11	Wareham,	2
Marlborough,	2	Westborough,	1
Mattapoissett,	1	Weymouth,	5
Maynard,	1	Whitman,	3
Medfield,	1	Worcester,	7
Medford,	3	Total,	511
Medway,	1		

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Artist,	1	-	1	Gardener,	2	-	2
Baker,	10	-	10	Hatmaker,	4	-	4
Bank teller,	-	1	1	Housewife,	-	105	105
Bartender,	4	-	4	Iron worker,	4	-	4
Blacksmith,	3	-	3	Janitor,	5	-	5
Bookkeeper,	3	-	3	Jewelry shop,	9	2	11
Bookmaker,	2	-	2	Junkman,	3	-	3
Bottler,	1	-	1	Labeler,	-	2	2
Butcher,	2	-	2	Laborers,	31	-	31
Butler,	2	-	2	Laundress,	-	1	1
Cableman,	1	-	1	Laundryman,	1	-	1
Candy maker,	1	1	2	Lighthouse keeper,	1	-	1
Car cleaner,	-	1	1	Longshoreman,	3	-	3
Carpenter,	6	-	6	Machine oiler,	2	-	2
Carpet layer,	1	-	1	Machinist,	19	-	19
Chauffeur,	6	-	6	Mason,	1	-	1
Cigar maker,	1	-	1	Merchant,	1	-	1
Clerk,	21	3	24	Messenger,	2	-	2
Collector,	3	-	3	Motorman,	1	-	1
Conductor,	2	-	2	Musician,	1	-	1
Cook,	3	1	4	Nurse,	-	2	2
Cranberry picker,	-	1	1	Operatives,	61	14	75
Dentist,	1	-	1	Painter,	5	-	5
Draftsman,	1	-	1	Paper hanger,	1	-	1
Dressmaker,	-	4	4	Paper ruler,	1	-	1
Druggist,	1	-	1	Peddler,	7	-	7
Egg lighter,	1	-	1	Plasterers,	2	-	2
Electrician,	2	-	2	Plumber,	1	-	1
Electrotyper,	1	-	1	Polisher, metal,	3	-	3
Elevator man,	1	-	1	Porter,	6	-	6
Engineer,	1	-	1	Printing pressman,	2	-	2
Farmer,	2	-	2	Sailor,	1	-	1
Fireman,	7	-	7	Salespeople,	15	2	17
Fisherman,	1	-	1	Shipper,	4	-	4
Florist,	2	-	2	Steam fitter,	1	-	1
Fountain pen repairer,	1	-	1	Stenographer,	1	2	3
Furniture polisher,	1	-	1	Stonecutter,	10	-	10

TABLE 6. — *Occupations — Concluded.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Street lighter,	2	—	2	Telephone operator, . .	1	2	3
Student,	8	6	14	Tinsmith,	1	—	1
Switchman,	1	—	1	Upholsterer,	1	—	1
Tailor,	16	1	17	Waiter,	4	2	6
Teamster,	17	—	17	Totals,	358	153	511

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	1	3	4
Moderately advanced,	150	71	221
Advanced,	195	75	270
Nontuberculous,	1	—	1
Not examined,	11	4	15
Totals,	358	153	511

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Arrested,	1	—	1	—
Apparently arrested,	4	5	9	2
Quiescent,	12	—	12	3
Improved,	146	91	237	49
Unimproved,	51	26	77	16
Died,	73	19	92	19
Not considered,	46	6	52	11
Totals,	333	147	480	100

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month, . . .	—	—	—	14	3	17
1 to 2 months, . . .	—	—	—	9	3	12
2 to 3 months, . . .	—	—	—	10	3	13
3 to 4 months, . . .	1	—	1	8	1	9
4 to 5 months, . . .	1	—	1	4	1	5
5 to 6 months, . . .	3	—	3	4	2	6
6 to 7 months, . . .	3	—	3	3	—	3
7 to 8 months, . . .	2	1	3	2	—	2
8 to 9 months, . . .	5	1	6	5	1	6
9 to 10 months, . . .	3	2	5	2	1	3
10 to 12 months, . . .	7	2	9	2	1	3
12 to 18 months, . . .	10	6	16	7	—	7
18 to 24 months, . . .	10	1	11	1	1	2
Over two years, . . .	28	6	34	2	2	4
Totals, . . .	73	19	92	73	19	92

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis pulmonalis,	72	19	91
Tubercular meningitis,	1	—	1
Totals,	73	19	92

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D., . . . *Superintendent.*
ROY MORGAN, M.D., . . . *Assistant Superintendent and Physician.*
JOHN I. PINCKNEY, M.D., . . . *Physician.*

CARRIE A. BAILEY, *Head Nurse.*
ALVENA F. LAUSMANN, *Head Nurse.*
EMILY B. POLLARD, *Head Nurse.*
HERBERT W. SMITH, *Steward.*
RALPH L. HIGGINS, *Chief Engineer.*
FRANK J. CLEGG, *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:— I have the honor to submit to you the fifth annual report for the Westfield State Sanatorium, for the year ending Nov. 30, 1914.

Two hundred and seventy-seven patients have been admitted during the year. This is but 4 more than were admitted the previous year. It is but a small increase considering that the opening of the children's ward in March added 70 beds to the capacity of the institution. The explanation for this condition lies in the fact that the average stay of each patient increased from 229 days, in 1913, to 247 days, in 1914. The admissions plus the number in the institution Dec. 1, 1913, make a total of 462 patients that have been under treatment during the year.

LENGTH OF RESIDENCE.

Twenty stayed less than thirty days; 139 from one to twelve months; 44 from one to two years; 2 more than two years; 3 more than three years. The longest length of stay was 1,374 days.

SUPPORT OF PATIENTS.

Of the 277 admitted during the year, 33 paid their own board of \$4 per week, 179 were supported by cities and towns, 45 were State charges, and the status of 20 has not yet been determined.

TUBERCULOUS CHILDREN.

As soon as the children's ward was opened, it was quickly filled to its capacity. The seventy boys and girls who occupy this building are between four and twelve years of age. The waiting list for children has never been exhausted, which goes

to show that the disease is now more frequently recognized in young children than was the case in 1910, when the last three State sanatoria were opened. At that time comparatively few applications were made for the admission of children.

Physicians now generally recognize the fact that tuberculous infection is very common in childhood. It is said on good authority that few reach the age of fifteen without becoming infected.

Bearing this in mind, the symptoms of disease must be carefully watched for and detected as soon as they appear. The conditions that should be considered danger signals are pallor, lack of normal physical development corresponding to the age of the child, poor appetite and undue fatigue. This latter condition is a very significant symptom. The child who has an active tuberculous focus will have the desire to play, but not the requisite energy. To attempt to keep up with other children tires it very quickly, and the first evidence of this exhaustion is most often shown through the nervous system. The child becomes peevish, irritable, and does not wake refreshed from sleep. Morning tire is abnormal for a healthy child, and is so frequently a symptom of tuberculous disease that it seems to me very important to bear this in mind. This condition, found together with poor resonance over the area between the scapulæ, is sufficient to make a tentative diagnosis of tuberculosis. A negative von Pirquet test is the only thing that could positively rule out such a conclusion.

Percussion is most important in making a diagnosis in children. Any one who has not mastered this art so as to distinguish slight changes in resonance cannot diagnose early cases. Auscultation is of decidedly secondary importance, as rales are seldom heard and respiratory changes are hard to interpret correctly. D'Espine's sign is not by any means constant. When it is present, the percussion dullness over the hylus is usually very marked.

Cough and sputum are absent in most cases of early disease. Occasional fever, lasting but a few days at a time, is not uncommon, but would be often missed in general practice, as daily records are not usually kept over a sufficient period of time.

A child with tuberculosis in an open stage (tubercle bacilli in sputum) has a long period of treatment ahead of him. My experience confirms the belief that adults with open tuberculosis do better than children with that condition, but that the latter with closed tuberculosis generally respond more quickly than adults to sanatorium treatment.

SANATORIUM SCHOOL.

The school work has developed until now it is a very important feature of the sanatorium. Beginning with 12 pupils in 1912, the number increased gradually to 65 last year. The opening of the children's ward more than doubled the number of patients of school age. The average attendance since then has been 103, divided into grades as follows: first, 24; second, 12; third, 13; fourth, 20; fifth, 13; seventh, 14; eighth, 9.

The experience of the preceding two years has been confirmed by this year's results, namely, that school, aside from its educational advantages, is a necessary part of sanatorium life for children. It is good treatment both from the standpoint of better discipline and of promoting the return to health.

Two teachers have been able to carry on the school work, as each one has a different group of children in the morning and in the afternoon. Each child goes but one-half session.

The work is done under great disadvantages because of the lack of suitable classrooms. The recreation room, which adjoins the dining hall and is over the carpenter shop, is obviously a very noisy place in which to teach school. The play room of the children's ward has been fitted up temporarily for a classroom for the first and second grades. Notwithstanding these difficult conditions, excellent work is accomplished and the children make good progress in their studies.

A patient, thirteen years of age, was recently admitted from one of the smaller cities. This boy could not read or write and had never been to school. He is not so diseased but what there is an excellent chance for him to recover his health. One of the teachers is giving him lessons apart from the first grade, to which he belongs. Although naturally objecting to going to school with the very small children, he eagerly accepted the opportunity to have separate lessons.

IMPROVEMENTS.

Children's Ward. — The children's ward was opened in March, and accommodates 35 boys and 35 girls. There are also ten rooms for nurses and attendants. The addition of this building increases our capacity to 254 beds. We are now able to care for very young children without their becoming a disturbing element to the adult patients. This building is situated so far away from the other wards that the children have freedom to romp and play, and nervous patients are not disturbed.

Another improvement, much appreciated by the assistant physicians, is a suitable laboratory for which room has been found in the basement of the new ward.

Concrete Walks and Lighting. — We have constructed about 1,400 square yards of concrete walks, connecting the buildings, and one walk, 820 feet long, over the hillside from the highway to the administration building. These walks have added a great deal to the appearance of the buildings, and are of great convenience to the many who use them. Much less dirt is now tracked into the buildings, and, therefore, less labor is required to keep the floors clean.

Underground electric cables have been laid to the farmhouse and barns, and along the driveway and walk approaching the buildings. These electric lights were very much needed, and their use in the barns materially lessens the fire hazard.

Underpass. — The underpass under the Boston & Albany Railroad was completed in the spring, but the changes in the State highway, necessary to insure a safe entrance, were not finished before the frost stopped further work. But little more remains to be done before this long delayed improvement is completed.

Coal Trestle. — Negotiations have been carried on with the Boston & Albany Railroad for the construction of a coal trestle near the underpass, for which an appropriation is now available. The contract is about ready for signatures.

RECOMMENDATIONS.

School Building. — The following is the situation at present.

There is an average of 130 children of school age sent to this institution from all parts of the State. Most of them are physically able to continue their studies under sanatorium conditions. The Commonwealth has not fulfilled its duty until it has provided a suitable school building for their use while they are obliged to live here. The average stay of these children will be more than a year. Some have been here three and four years. It would be a sad mistake to allow them to waste this valuable time.

For the past two years we have employed two teachers, but their work has been done under great difficulties, as the rooms used for school purposes are inadequate in size and their situation is very noisy.

In addition to the children of grammar school age, we have about 50 young people. The boys could profitably use their time in the workshop, and the girls should have instruction in domestic science.

The large percentage of these children are curable cases, and it is important that they have an opportunity to study and learn some useful work while under treatment.

According to plans and estimates made, we shall need an appropriation of \$13,725 for a suitable building and equipment.

Dairy Room and Equipment. — We have no separate room in connection with our barn in which to cool and care for the milk. We are very much in need of this addition and a suitable equipment. The estimated expenditure for this improvement would be \$1,000.

150 Horse Power Boiler. — Our two boilers are barely large enough to provide steam for our present buildings. If one of them should need repairs in the winter time, we would be in rather serious difficulty, as one boiler is not large enough to do the work in the coldest weather. If the proposed school building is erected, this additional boiler will be an absolute necessity. The estimated cost of the boiler and setting is \$2,000.

ACKNOWLEDGMENTS.

Each Sunday religious services are now conducted by Catholic, Protestant and Jewish clergymen. The work of these chaplains is very helpful to the patients and employees. Furthermore, their influence over the patients and their willingness to co-operate is an essential factor toward maintaining proper discipline.

Many useful gifts have been received from people in the neighboring cities and towns, and especially at Christmas have they been very generous in sending presents to the children. The proof of good feeling and the desire to be helpful are constantly manifested by individuals and organizations in both Westfield and Springfield.

I have been very fortunate in retaining many loyal assistants and employees in the service of the institution. To carry out its purpose, it is necessary to have employees who are not only efficient, but are kind at heart and gentle of manner, and who will at all times remember that the sanatorium exists for the patients. Their welfare must have first consideration. I feel that among the employees there are many who come up to this requirement, and it gives me pleasure to commend them to you.

The continued confidence you have shown in my efforts to carry out your policies in the management of the institution is to me a source of great satisfaction. This will act as a further incentive for better service and higher ideals in my work during the coming year.

Respectfully submitted,

HENRY D. CHADWICK,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1914:—

CASH ACCOUNT.

Balance Dec. 1, 1913,	\$1,028 47
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Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$3,949 39
Cities and towns,	20,569 84

\$24,519 23

Sales:—

Food,	\$875 46
Miscellaneous,	55 89

Farm, stable and grounds:—

Cows and calves,	\$89 00
Pigs and hogs,	406 52
Hides,	34 61
Vegetables,	57 46
Use of teams,	2 00
Sundries,	24 55

614 14

1,545 49

Miscellaneous receipts:—

Interest on bank balances,	\$126 14
Sundries,	121 50

247 64

26,312 36

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1913,	\$6,389 75
Advance money (amount on hand November 30),	6,056 59
Approved schedules of 1914,	115,943 41

128,389 75

Special appropriations,	15,223 17
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Total,	\$170,953 75
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Payments.

To treasury of Commonwealth, institution receipts,		\$26,312 36
Maintenance appropriations:—		
Balance November schedule, 1913,	\$7,418 22	
Eleven months schedules, 1914,	115,943 41	
November advances,	5,321 73	
	<hr/>	128,683 36
Special appropriations:—		
Approved schedules,		15,223 17
Balance Nov. 30, 1914:—		
In bank,	\$521 21	
In office,	213 65	
	<hr/>	734 86
Total,		<hr/> \$170,953 75

MAINTENANCE.

Appropriation,	\$122,000 00
Expenses (as analyzed below),	124,791 78
	<hr/>
Deficiency,	\$2,791 78

Analysis of Expenses.

Salaries, wages and labor:—	
Henry D. Chadwick, superintendent,	\$2,500 00
General administration,	20,043 40
Medical service,	2,700 00
Ward service (male),	2,397 40
Ward service (female),	7,238 66
Repairs and improvements,	3,899 36
Farm, stable and grounds,	9,680 64
	<hr/>
	\$48,459 46
Food:—	
Butter,	\$3,218 66
Butterine,	12 60
Beans,	92 77
Bread and crackers,	90 10
Cereals, rice, meal, etc.,	318 15
Cheese,	89 80
Eggs,	3,604 11
Flour,	1,144 27
Fish,	925 31
Fruit (dried and fresh),	1,092 59
Lard,	340 80
Meats,	17,734 77
Milk,	437 95
Molasses and syrup,	90 54
Spices, seasonings, salt, etc.,	241 01
Sugar,	932 20
Tea, coffee, broma and cocoa,	599 98
Vegetables,	2,371 27
	<hr/>
Amounts carried forward,	\$33,336 88
	<hr/> \$48,459 46

<i>Amounts brought forward,</i>	\$33,336 88	\$48,459 46
Food—<i>Con.</i>		
Yeast,	68 66	
Sundries,	465 35	
	<hr/>	33,870 89
Clothing and materials:—		
Boots, shoes and rubbers,	\$224 23	
Clothing,	376 31	
Dry goods for clothing and small wares,	121 31	
Furnishing goods,	6 78	
Hats and caps,	2 25	
Leather and shoe findings,	10 62	
Sundries,	7 14	
	<hr/>	748 64
Furnishings:—		
Beds, bedding, table linen, etc.,	\$2,868 38	
Brushes, brooms,	211 80	
Carpets, rugs, etc.,	67 77	
Crockery, glassware, cutlery, etc.,	370 71	
Furniture and upholstery,	1,258 94	
Kitchen furnishings,	569 90	
Wooden ware, buckets, pails, etc.,	37 72	
Sundries,	275 73	
	<hr/>	5,660 95
Heat, light and power:—		
Coal,	\$1,997 06	
Freight on coal,	3,721 68	
Oil,	513 82	
Sundries,	292 80	
	<hr/>	6,525 36
Repairs and improvements:—		
Brick,	\$6 60	
Cement, lime and plaster,	345 45	
Doors, sashes, etc.,	178 31	
Electrical work and supplies,	516 21	
Hardware,	628 18	
Lumber,	743 90	
Machines (detached),	4,201 78	
Paints, oil, glass, etc.,	734 54	
Plumbing, steam fitting and supplies,	2,357 08	
Roofing and materials,	74 53	
Sundries,	253 59	
	<hr/>	10,040 17
Farm, stable and grounds:—		
Blacksmith and supplies,	\$250 55	
Carriages, wagons, etc., and repairs,	2,079 56	
Fertilizers, vines, seeds, etc.,	502 74	
Hay, grain, etc.,	5,954 08	
Harnesses and repairs,	138 37	
Horses,	275 00	
Cows,	1,450 00	
Rent,	27 00	
Tools, farm machines, etc.,	234 92	
Sundries,	219 57	
	<hr/>	11,131 79
<i>Amount carried forward,</i>		\$116,437 26

<i>Amount brought forward,</i>		\$116,437 26
Religious services,		1,048 10
Miscellaneous:—		
Books, periodicals, etc.,	\$41 00	
Cuspidor supplies,	386 07	
Entertainments,	40 73	
Freight, expressage and transportation,	1,550 30	
Funeral expenses,	65 00	
Ice,	2 50	
Medicines and hospital supplies,	1,187 63	
Medical attendance, nurses, etc. (extra),	85 00	
Postage,	205 70	
Printing and printing supplies,	372 05	
Soap and laundry supplies,	1,362 25	
Stationery and office supplies,	185 33	
School books and school supplies,	167 55	
Travel and expenses (officials),	336 16	
Telephone and telegraph,	491 89	
Tobacco,	5 25	
Sundries,	822 01	
		<u>7,306 42</u>
Total expenses for maintenance,		\$124,791 78

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1913,	\$12,873 46
Appropriations for fiscal year,	6,426 43
	<u>\$19,299 89</u>
Total,	
Expended during the year (see statement annexed),	\$15,223 17
Reverting to treasury of Commonwealth,	04
	<u>15,223 21</u>
Balance Nov. 30, 1914,	\$4,076 68

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$734 86
November cash vouchers (paid from advance money), account of maintenance,	5,321 73
	<u>\$6,056 59</u>

Liabilities.

Schedule of November bills,	\$8,848 37
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PER CAPITA.

During the year the average number of inmates has been 234.57.

Total cost for maintenance, \$124,791.78.

Equal to a weekly per capita cost of \$10.23.

Receipt from sales, \$1,545.49.

Equal to a weekly per capita of \$0.1267+.

All other institution receipts, \$24,766.87.

Equal to a weekly per capita of \$2.0304+.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Power house and laundry,	Acts 1913, chap. 133	\$17,000 00	\$1,524 80	\$17,000 00	—
Children's ward,	Acts 1913, chap. 133	20,000 00	11,348 62	19,999 96	\$0 04 ¹
Grading, concrete walks, lighting,	Acts 1914, chap. 131	2,500 00	2,349 75	2,349 75	150 25
Coal trestle,	Acts 1914, chap. 131	3,926 43	—	—	3,926 43
		\$43,426 43	\$15,223 17	\$39,349 71	\$4,076 68

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

HENRY D. CHADWICK,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

Real Estate.

Land:—

Used for tillage, $40\frac{1}{8}$ acres,	\$3,009 36
Used for pasture, 5 acres,	50 00
Used for grounds, 30 acres,	6,513 96
Used for mowing, $22\frac{4}{8}$ acres,	1,687 00
Used for woodland, 40 acres,	2,000 00
Waste and miscellaneous, $40\frac{3}{8}$ acres,	246 88

Buildings:—

Administration,	39,993 36
Inmates,	55,609 00
Farm, stable and grounds,	11,375 00
Employees,	5,100 00
Heat, light and power,	14,300 00

Miscellaneous:—

Sewage system,	1,859 35
Equipment, for heat, light and power,	14,095 09
Water system,	2,387 34
Heating system,	1,107 10
Hot water system,	397 55
Telephone system,	75 00

Total valuation of real estate, \$159,805 99

Personal Property.

East ward,	\$4,024 44
West ward,	3,820 66
Children's ward,	3,072 00
Laboratory,	717 33
Administration building,	1,202 86
Service building,	1,331 21
Annex,	933 51
Day farmhouse,	302 31
Superintendent's apartment,	832 09

Amounts carried forward, \$16,236 41 \$159,805 99

<i>Amounts brought forward,</i>	. . . . .	\$16,236 41	\$159,805 99
Staff camp,	. . . . .	52 63	
Office,	. . . . .	1,589 36	
Schoolrooms,	. . . . .	932 25	
Kitchen,	. . . . .	3,367 60	
Bakery,	. . . . .	623 94	
Storeroom,	. . . . .	1,521 71	
Power house, second floor,	. . . . .	227 17	
Laundry,	. . . . .	497 68	
Engine room,	. . . . .	801 10	
Paint shop,	. . . . .	180 92	
Farm,	. . . . .	14,886 40	
		<hr/>	40,917 17
Total valuation,	. . . . .		\$200,723 16

PRODUCE OF FARM.

Asparagus, 3 boxes,	\$12 00
String beans, 7 $\frac{3}{4}$ bushels,	6 59
Beets, 61 $\frac{3}{4}$ bushels,	37 05
Beet greens, 25 bushels,	10 00
Cabbage, 10 tons,	130 00
Carrots, 200 bushels,	120 00
Cauliflower, 25 bushels,	13 75
Celery, 700 boxes,	525 00
Sweet corn, 203 bushels,	121 80
Cucumbers, 75 boxes,	75 00
Cucumber pickles, 160 pecks,	56 00
Dandelions, 25 bushels,	8 75
Egg plants, 5 $\frac{1}{2}$ barrels,	20 62
Endive, 15 pounds,	4 50
Kohl-rabi, 1 bushel,	45
Leeks, 1 bushel,	30
Lettuce, 922 boxes,	230 50
Onions, 210 bushels,	126 00
Parsley, 3 bushels,	1 05
Parsnips, 50 bushels,	32 50
Green peas, 25 bushels,	50 00
Red peppers, 7 bushels,	3 50
Green peppers, 8 bushels,	4 00
Pumpkins, 20 hundredweight,	30 00
Potatoes, 200 bushels,	110 00
Radishes, 15 bushels,	11 05
Rhubarb, 2,000 pounds,	20 00
Scullions, 50 bushels,	12 50
Spinach, 900 pounds,	21 00
Summer squash, 150 barrels,	90 00
Winter squash, 5 tons,	100 00
Tomatoes, 100 bushels,	100 00
Turnips, 167 bushels,	125 25
Strawberries, 25 $\frac{1}{2}$ quarts,	3 06
Swiss chard, 70 bushels,	28 00
Hay, 5 tons,	58 00
Feed corn, 90 $\frac{1}{4}$ tons,	451 25
Cow peas and oats, 8 tons,	40 00
Millet, 10 tons,	50 00
Rye, 20 tons,	100 00

Total,	\$2,939 47
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Received from the sale of pigs and hogs,	\$406 52
Received from the sale of vegetables,	57 46
Received from the sale of hides,	34 61
Received from the sale of cows and calves,	89 00
Beef used by sanatorium, 3,477 pounds,	417 24
Veal used by sanatorium, 128 pounds,	17 92
Pork used by sanatorium, 8,497 pounds,	1,019 64
Milk produced, 143,153 quarts, at \$0.05 $\frac{2}{3}$ per quart,	8,112 00

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number received during the year,	130	147	277
Number passing out of the institution during the year, .	97	111	208
Number at the end of the fiscal year in the institution, .	129	125	254
Daily average attendance (number of inmates actually present) during the year.	117.70	116.87	234.57
Average number of employees and officers during the year, .	63	28	91

Expenditures.

Current expenses: —

1. Salaries and wages,	\$48,459 46
2. Clothing,	748 64
3. Subsistence,	33,870 89
4. Ordinary repairs,	10,040 17
5. Office, domestic and outdoor expenses, .	31,672 62

Total,	\$124,791 78
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Extraordinary expenses: —

1. Permanent improvements to existing buildings and new construction,	15,223 17
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Grand total,	\$140,014 95
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STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1913, to Nov. 30, 1914, inclusive.	130	147	277
Number of patients discharged Dec. 1, 1913, to Nov. 30, 1914, inclusive.	97	111	208
Number of deaths (included in preceding item), . . .	28	19	47
Number in sanatorium Dec. 1, 1913,	—	—	185
Number remaining Nov. 30, 1914,	—	—	254

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	31	32	63
Single,	94	110	204
Widowed,	5	5	10
Totals,	130	147	277

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	41	47	88
14 to 20 years,	29	39	68
21 to 30 years,	24	36	60
31 to 40 years,	22	16	38
41 to 50 years,	7	7	14
51 to 60 years,	7	1	8
61 to 70 years,	—	1	1
Totals,	130	147	277

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patient.	Father.	Mother.	Patient.	Father.	Mother.	Patient.	Father.	Mother.
United States: —									
Massachusetts,	80	27	19	81	25	12	161	52	31
New England States,	8	4	8	9	7	10	17	11	18
Other States,	8	7	4	5	4	5	13	11	9
Total native,	96	38	31	95	36	27	191	74	58
Other countries: —									
Armenia,	1	2	—	—	—	—	1	2	—
Austria,	1	1	2	2	2	2	3	3	4
Bohemia,	—	—	2	—	1	—	—	1	2
Canada,	4	11	11	12	21	20	16	32	31
Denmark,	—	1	—	—	—	—	—	1	—
England,	3	4	4	5	6	10	8	10	14
Finland,	1	1	1	1	1	1	2	2	2
France,	—	1	—	—	—	—	—	1	—
Germany,	—	—	—	—	5	4	—	5	4
Ireland,	6	25	34	4	24	32	10	49	66
Italy,	2	2	2	5	8	5	7	10	7
Portugal,	—	—	—	—	1	1	—	1	1
Roumania,	—	1	1	—	—	—	—	1	1
Russia,	9	13	15	16	18	22	25	31	37
Scotland,	1	3	2	—	2	1	1	5	3
Sweden,	1	8	7	4	6	5	5	14	12
Switzerland,	1	1	1	—	—	—	1	1	1
Syria,	1	—	—	1	3	3	2	3	3
Turkey,	—	—	—	2	2	2	2	2	2
West Indies,	—	—	—	—	1	1	—	1	1
Total foreign born,	31	74	82	52	101	109	83	175	191
Unknown,	3	18	17	—	10	11	3	28	28
Totals,	130	130	130	147	147	147	277	277	277

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Allston,	2	North Adams,	1
Amherst,	2	Northampton,	6
Arlington,	1	North Easton,	1
Athol,	1	Northfield,	1
Attleborough,	3	North Hatfield,	1
Baldwinsville,	4	Orange,	2
Barre,	1	Orient Heights,	1
Becket,	1	Peabody,	3
Boston,	89	Pigeon Cove,	1
Brockton,	1	Pittsfield,	2
Brookline,	1	Provincetown,	1
Cambridge,	1	Quincy,	1
Canton,	2	Revere,	2
Chelsea,	8	Rutland,	2
Dedham,	2	Salem,	2
East Longmeadow,	1	Sharon,	1
East Saugus,	1	Shrewsbury,	1
Fall River,	4	Somerville,	4
Fisherville,	1	Southborough,	1
Fitchburg,	3	Southbridge,	1
Foxborough,	1	Spencer,	1
Gardner,	3	Springfield,	23
Great Barrington,	2	State minor wards,	4
Greenfield,	1	Turners Falls,	1
Haverhill,	3	Walpole,	1
Hingham,	1	Waltham,	1
Holyoke,	7	Ware,	1
Lawrence,	1	Waterville,	1
Leeds,	1	Webster,	2
Leominster,	3	West Auburn,	1
Lexington,	1	West Brookfield,	1
Lowell,	3	Westfield,	3
Lynn,	6	West Springfield,	3
Malden,	1	West Stockbridge,	1
Medford,	4	Whitinsville,	1
Mendon,	1	Winchendon,	1
Millbury,	1	Worcester,	24
New Bedford,	1	Total,	277
Newton,	2		

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Actor,	1	-	1	Nurse,	-	3	3
At home,	-	8	8	Orderly,	2	-	2
Book folder,	-	1	1	Painter,	3	-	3
Carder,	1	1	2	Paper folder,	-	1	1
Carpenter,	3	-	3	Paper hanger,	1	-	1
Cash girl,	-	1	1	Plasterer,	1	-	1
Chair maker,	2	-	2	Pressman,	1	-	1
Clerk,	6	2	8	Reporter,	1	-	1
Coachman,	1	-	1	Salesman,	2	-	2
Currier,	1	-	1	School,	53	68	121
Draftsman,	1	-	1	Shoemaker,	1	1	2
Egg inspector,	1	-	1	Social worker,	-	1	1
Emery polisher,	1	-	1	Soldier,	1	-	1
Engineer,	4	-	4	Spinner,	-	1	1
Factory hand,	5	11	16	Stenographer,	-	2	2
Gardener,	1	-	1	Stoneworker,	1	-	1
Hairdresser,	-	1	1	Tailor,	1	-	1
Housewife,	-	33	33	Teacher,	-	2	2
Inspector,	1	-	1	Teamster,	4	-	4
Janitor,	1	-	1	Telephone operator,	1	-	1
Laborer,	6	-	6	Tinsmith,	1	-	1
Machinist,	6	-	6	Tool grinder,	1	-	1
Merchant,	1	-	1	Upholsterer,	1	-	1
Messenger boy,	3	-	3	Waiter,	2	-	2
Milliner,	-	1	1	Waitress,	-	2	2
Newsboy,	1	-	1	Weaver,	-	2	2

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	28	33	61
Moderately advanced,	29	39	68
Advanced,	72	74	146
Nontuberculous,	1	1	2
Totals,	130	147	277

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	8	10	18
Apparently arrested,	17	27	44
Quiescent,	11	7	18
Improved,	13	16	29
Unimproved,	17	23	40
Died,	28	19 ¹	47
Nontuberculous,	1	—	1
Not considered,	2	9	11
Totals,	97	111	208

¹ Drowned.TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			SANATORIUM RESIDENCE.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	4	3	7
1 to 3 months,	—	—	—	9	6	15
3 to 6 months,	3	—	3	8	2	10
6 to 9 months,	4	3	7	1	4	5
9 months to 1 year,	5	4	9	2	—	2
1 to 2 years,	3	1	4	2	—	2
2 to 5 years,	9	5	14	2	1	3
5 to 10 years,	2	2	4	—	—	—
Over 10 years,	1	1	2	—	—	—
Totals,	27 ¹	16 ²	43	28	16	44

¹ One nontuberculous, not included.² Three not considered, drowned; one not considered, nontuberculous.

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.

RESIDENT MEDICAL OFFICERS.

ELLIOTT WASHBURN, M.D.,	. . .	<i>Superintendent.</i>
JAMES A. LYON, M.D.,	. . .	<i>Assistant Superintendent and Physician.</i>
WILLARD B. HOWES, M.D.,	. . .	<i>Physician.</i>
STANHOPE B. BERKLEY, M.D.,	. . .	<i>Physician.</i>
— — —,	. . .	<i>Bacteriologist.</i>

SARAH A. CRAWFORD,	. . .	<i>Superintendent of Nurses and Dietitian.</i>
CHARLES E. CARROLL,	. . .	<i>Steward.</i>
WALTER C. BROWN,	. . .	<i>Chief Enginecr.</i>
FREDERICK H. DRURY,	. . .	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

The Trustees of Hospitals for Consumptives.

LADIES AND GENTLEMEN:—I present for your consideration the annual report of the Rutland State Sanatorium for the year ending Nov. 30, 1914.

STAFF PERSONNEL.

Dr. Olin S. Pettingill, third assistant physician, resigned in October to take the position of assistant superintendent at the Rhode Island State Sanatorium at Wallum Lake, R. I. Dr. Stanhope B. Berkley, from the Catawba Sanatorium, Virginia, has been appointed by your honorable Board to succeed Dr. Pettingill, and assumes his duties on December 1.

Mr. Rudolph Ertischek, bacteriologist, died on November 16. I desire to place on record my appreciation of Mr. Ertischek as an able and conscientious laboratory man, and as a man who, in the face of a recognized inevitable fate, worked on cheerfully and stoutly to the end. His successor has not yet been chosen.

Miss Helen V. Pond, assistant dietitian, resigned on November 1. Miss Pond goes to Philadelphia, where she will pursue courses in advanced dietetics. Her successor has not yet been chosen.

PATIENTS.

The daily average of patients in the sanatorium was 350, which is 2 more than any previous year. The admissions were 469 and the discharges 476. We found the usual variation between the condition of applicants as stated on the application blanks and as found on our examination.

Patients admitted Dec. 1, 1913, to Nov. 30, 1914.

	Classifica- tion on Application Blanks.	Classifica- tion on Admission.
Incipient,	330	177
Moderately advanced,	135	213
Far advanced,	4	72
Nontuberculous,	—	7
	469	469

On admission 37.74 per cent. were incipient, 45.41 per cent. were moderately advanced, 15.35 per cent. were far advanced, and 1.49 per cent. were considered to be nontubercular.

The average length of stay of discharged patients who were in the sanatorium long enough to be "considered" on our records, that is, at least one month, was ten months and six days, an increase of one month and twenty-two days per patient more than last year. The average age of all patients admitted was twenty-eight years, two months and twenty-nine days; of males, twenty-eight years, two months and eighteen days; of females, twenty-eight years, three months and ten days. The average age was eleven days younger than the previous year. The average gain in weight of discharged patients was 12.20 pounds, as against 8.46 pounds in 1913; the average increase for men, 13.25 pounds; for women, 11.15 pounds; largest individual gain in a man, 51 pounds; in a woman, 61 pounds.

The usual special reports and statistical tables are appended to this report.

EXPENSE OF OPERATING.

The treasurer's report shows the income and expense account for the year. The Legislature cut our estimate of expense by \$11,000, which is in a measure responsible for the fact that we faced a deficit at the end of the year. The severity of the winter, necessitating an abnormally large coal consumption, the poor quality of the coal which was supplied to our institution, in common with others, the high cost of food supplies,

and certain increases in salaries and wages, also contributed to this end. By a change in the method of buying for the main dining room, we reduced our food cost nearly \$3,000 over that of 1913, and by still further changes, which are in contemplation, we think that we can still further reduce this cost.

LENGTH OF PAY ROLL.

A very considerable item in the maintenance expense of this sanatorium is the length of its pay roll. Thus by an examination of our pay roll for the past eight or ten years we find that we carry, on an average, 200 employees for 350 patients, or 1 employee for 1.75 patients. This is not a new condition; it is one that has existed for many years, and is in a measure due to the following custom. For many years it has been the policy of this institution to take on its pay roll, in various capacities, ex-patients of the sanatorium. Primarily, this was done, I suppose, to encourage and support patients who on discharge from the sanatorium as patients feared to resume their former work at home. Then, too, it was found that a number of such ex-patients, who could do little or no work, and had considerable difficulty even to live if they returned to their own city or town, were able to live and do a fair amount of work at Rutland. Gradually, the custom became fixed, so that to-day approximately 50 per cent. of the employees on our pay roll have been at some time or other patients in the sanatorium.

How has this plan worked out in relation to (1) the ex-patient himself, (2) the Commonwealth at large, (3) the efficiency and economy of the sanatorium itself?

1. As to the ex-patient, the plan has worked on the whole pretty well. Many ex-patients have been enabled by this method to regain slowly full working capacity, and have tided themselves over financial straits, which they faced when discharged as patients, until they accumulated a few dollars with which again to make the attempt at working at their old trades. Then, again, as stated above, many have been enabled to work and keep alive here who could not do so under conditions existing in places where they would otherwise have been obliged to live and work.

On the other hand, there have been noted certain instances where this plan has failed to work to the benefit of the ex-patient, where he or she, under the evident impression that somehow or other the State was bound to provide a job, has been satisfied to remain at the sanatorium at a very low wage for indefinite periods, clogging the pay roll and returning a minimum of service. Such patients are apparently imbued with the firm conviction that because they are ex-patients, they are thus exempt from discharge as workers, except for the most flagrant causes. In such instances as these, this plan has in this way acted against the ex-patient's own best interests.

2. In what way, if any, does the Commonwealth benefit by the practice? In my opinion the only benefit is the fact that by giving some of these ex-patients employment in a place where they can live, a certain number are thereby prevented from becoming permanent dependents, who would in all probability become such dependents if forced to return to working and home conditions under which inevitably they would lose all the benefit gained in their sanatorium residence, and would ultimately break down and succumb to the disease. I see no other real benefit to the Commonwealth from this custom.

3. The relation of this practice to the efficiency and economy of the sanatorium itself is of much importance. Does the practice help or injure the sanatorium? I am frank to say that the benefit to the sanatorium is so extremely small as to be negligible, and that, on the other hand, the injury to efficiency and economy is very plainly apparent to the executive head. This injury is due to the following factors:—

(a) Most ex-patients are physically below working par; it takes more of them to do the day's work than of healthy employees. This increases the number of employees to do the necessary work of the institution without a corresponding increase in efficiency; the result is a *long* pay roll, although by no means necessarily an unduly *large* pay roll in the matter of dollars and cents, inasmuch as the average amount per capita paid to all employees in 1914 was less than \$7 per week, with living. It is a *long* pay roll, and, assuming that by employing only persons in full health, 160 or 170 could do the work now

done by 200, of whom 100 are ex-patients, we would then dispense with the necessity of feeding, housing and laundering for 30 or 40 employees. This is where the financial gain would appear, as we would have to pay the healthy employees more than we now have to pay ex-patient employees. In short, the gain would not appear in the gross amount of salaries and wages, but would appear in the items, — food, bedding, care of rooms, laundry, etc. There would be 30 to 40 less employees to house and care for, which might permit a still further reduction in the number of employees who attend to such duties. So much for the economy of it.

(b) Efficiency in sanatorium maintenance, outside of the monetary side of the question, is, in my opinion, injured by the practice of taking on ex-patients as employees through the peculiar camaraderie, or bond, which exists between persons affected with tuberculosis. This camaraderie is carried to the extent that there exists such a bond between patients and workers who have been patients as to interfere with efficiency in sanatorium administration; especially is this true in the matter of discipline of patients. Many times it is practically impossible to obtain from an ex-patient worker a true statement of breaches of discipline by patients, even when most serious, although the worker has such information within his knowledge. This is especially true when the worker has been, while a patient, associated with the offender. There appears to be an unwritten law that the ex-patient worker must in every instance come to the support of the offending patient rather than of the administration. This is a serious hindrance to administrative efficiency. Furthermore, frequently an ex-patient will be obliged to lay off for a half day, a day, two days or longer, and not infrequently breaks down entirely, thus temporarily embarrassing the department to which he has been assigned and necessitating the frequent introduction of an untrained worker. This still further reduces efficiency.

To sum up, your superintendent after attempting to balance the credits against the debits of this custom has arrived at the opinion that the account cannot be made to balance; that while the ex-patients undoubtedly gain a good deal by the custom, and the Commonwealth, as stated, may possibly gain

a little, that the loss to the sanatorium in efficiency and economy so far offsets these gains that in the final analysis the balance is after all heavily against the State.

MEDICAL SERVICE.

The medical routine of a sanatorium does not vary widely year after year. In the annual report for 1913 we presented a résumé of our routine medical work, and there is nothing to add to it this year. Especial attention has been paid to throat complications, and every member of the medical staff has made especial effort to perfect himself in the proper technique of such work. A full report of the throat work done during the year has been submitted to Dr. A. C. Getchell, consulting laryngologist, who has incorporated it in a special report.

The work on artificial pneumothorax has somewhat increased over that of the previous year. We are not yet ready to pass final judgment on the efficacy of this mode of treatment.

A list of medical papers, prepared by the members of my staff and by myself during the year, will be found elsewhere.

HOSPITAL AND SANATORIUM CLASSES.

In February this sanatorium adopted the division of patients into two classes, as at North Reading Sanatorium in the preceding year, — the sanatorium or "I'll Try" class, and the hospital or the "I Don't Much Care" class. Observations upon the results obtained by this division of patients appear elsewhere.

WATER SUPPLY.

Under a new contract, signed mutually by the town of Rutland and the Trustees of Hospitals for Consumptives, a new rate of 10 cents per 1,000 gallons of water, instead of 12 cents as heretofore, became operative on October 14, upon which date the installation of a large water meter, placed near the main service pipe by the sanatorium, in accordance with a clause in the contract, the expense of which was provided for by a special resolve of the Legislature, was completed. This large meter does away with the use of numerous small meters heretofore used, and will eliminate the question of leaks on portions

of pipe previously not metered, which occasioned us considerable expense and much annoyance. Whenever the town thought there was a leak on one of these pipes on our property, we were obliged to dig down and investigate, often finding no leak. By placing the new meter within 20 feet of the town's main, we have eliminated this trouble.

The matter of waste of water has received the attention of the superintendent. In spite of the utmost care, patients waste large quantities of water by allowing the water to run continuously while shaving, etc. As many patients and some employees are habitually negligent in this respect of waste, a scheme whereby the water pressure may be reduced is under consideration, and has been installed in a few places. No one suffers by this, every one has all the water he needs, and even if the faucet is left turned on, only a third as much water is lost as heretofore. In the first month, November 1 to December 1, that especial attention has been given to the matter of water waste, the meter reading showed a saving of 500,000 gallons over the corresponding period for the previous year. There appears to be no adequate reason why, with a constant sanatorium population, the water used should show as it has a steady increase year after year.

POULTRY HOUSES.

Under a special appropriation granted by the Legislature, a new poultry plant is in process of construction on the location indicated in our report of 1913.

REPAIRS AND IMPROVEMENTS.

The repairs on the engine room, necessitated by the fire in 1913, have been completed. The appropriation for this work carried with it a sum for the erection of a small house for fire purposes. We built for such use a one room cobblestone house, 20 by 22 feet, with roof and gables covered with metallic shingles, and having an attic or room for storage of hose, etc.

By authorization of your honorable Board a much needed veranda has been added to ward F.

Much needed painting and general repairs have been done.

Much still remains to be done. The sanatorium buildings have reached an age at which constant minor repairs here and there are necessary in order to maintain them at the desired standard.

CONCLUSION.

To the clergymen of the several denominations who by their zeal have helped the patients and have lessened my load, to the many friends of the sanatorium who by their gifts of books and clothing and by deeds of kindness have lightened the burden of many patients, and to the members of my medical staff, my officers and employees for work cheerfully and carefully performed, I proffer my sincere thanks and appreciation. Especially do I thank the members of the Board of Trustees for their support, advice and co-operation in matters concerning the sanatorium administration.

Very respectfully submitted,

ELLIOTT WASHBURN,

Superintendent.

RUTLAND, Dec. 1, 1914.

TREASURER'S REPORT.

To the Trustees of Massachusetts Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1914:—

CASH ACCOUNT.

Balance Dec. 1, 1913,	\$3,936 36
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Receipts.

Institution Receipts.

Board of inmates:—	
Private,	\$12,434 93
Cities and towns,	25,734 22
Other reimbursements, chari- table (collected by State Treasurer),	17 71
	<hr/> \$38,186 86

Sales: —

Food,	\$933 77
Clothing and materials,	16 75
Heat, light and power,	7 00
Miscellaneous,	567 95

Farm, stable and grounds:—

Cows and calves, .	\$1,996	40	
Pigs and hogs, .	1,271	80	
Hides, .	1	50	
Use of teams, .	4	50	
Sundries, .	24	29	
			3,298 49

4,823 96

Miscellaneous receipts:—

Interest on bank balances,	.	\$186	60	
Sundries,	.	.	95	07
			<hr/>	281 67

43,292 49

Wages refunded account of 1913 expenses,	7 15'
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Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1913,	\$211 05
1913 deficiency,	5,076 55
Advance money (amount on hand November 30),	21,983 49
Approved schedules of 1914,	\$171,553 09
Less returned,	16 51
	<hr/>
	171,536 58

198,807 67

Special appropriations,	\$5,228	13
Less returned,	<u>1</u>	64
		5,226 49

5,226 49

[illegible]

Payments.

To treasury of Commonwealth:—

Institution receipts,	\$43,292 49
Wages refunded account of 1913 expenses,	7 15

Maintenance appropriations:—

Balance November schedule, 1913,	\$9,407 92
Ten months schedules, 1914,	171,536 58
October and November advances,	13,248 78
	<hr/>
	194,193 28

Special appropriations:—

Approved schedules,	\$5,226 49
Less advances, last year's report,	183 96
	<hr/>
	\$5,042 53
November advances,	27 42
	<hr/>
	5,069 95

Balance Nov. 30, 1914:—

In bank,	\$8,687 29
In office,	20 00
	<hr/>
	8,707 29

Total,	\$251,270 16
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MAINTENANCE.

Appropriation,	\$194,166 00
Expenses (as analyzed below),	201,110 93
	<hr/>
Deficiency,	\$6,944 93

Analysis of Expenses.

Salaries, wages and labor:—

Elliott Washburn, M.D., superintendent,	\$2,500 00
General administration,	42,886 52
Medical service,	4,758 92
Ward service (male),	1,444 20
Ward service (female),	8,105 45
Repairs and improvements,	6,347 29
Farm, stable and grounds,	8,737 86
	<hr/>
	\$74,780 24

Food:—

Butter,	\$6,267 04
Butterine,	259 05
Beans,	236 09
Bread and crackers,	214 76
Cereals, rice, meal, etc.,	640 21
Cheese,	147 32
Eggs,	8,116 64
Flour,	2,225 45
Fish,	2,267 03
Fruit (dried and fresh),	4,171 31
Lard,	73
	<hr/>

Amounts carried forward,	\$24,545 63	\$74,780 24
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<i>Amounts brought forward,</i>	\$24,545 63	\$74,780 24
Food — <i>Con.</i>		
Meats,	31,812 40	
Milk,	9,222 53	
Moiasses and syrup,	95 01	
Spices, seasonings, salt, etc.,	727 27	
Sugar,	2,222 95	
Tea, coffee, broma and cocoa,	1,323 57	
Vegetables,	3,819 21	
Yeast,	105 75	
Sundries,	260 29	
	<hr/>	74,134 61
Clothing and materials: —		
Boots, shoes and rubbers,	\$5 75	
Clothing,	110 61	
	<hr/>	116 36
Furnishings: —		
Beds, bedding, table linen, etc.,	\$2,562 57	
Brushes, brooms,	317 06	
Carpets, rugs, etc.,	247 79	
Crockery, glassware, cutlery, etc.,	947 62	
Furniture and upholstery,	637 58	
Kitchen furnishings,	367 00	
Wooden ware, buckets, pails, etc.,	36 22	
Sundries,	111 31	
	<hr/>	5,227 15
Heat, light and power: —		
Coal,	\$14,395 97	
Transportation,	2,273 48	
Wood,	78 73	
Oil,	217 46	
Sundries,	120 86	
	<hr/>	17,086 50
Repairs and improvements: —		
Brick,	\$108 00	
Cement, lime and plaster,	104 71	
Doors, sashes, etc.,	94 32	
Electrical work and supplies,	496 00	
Hardware,	631 04	
Lumber,	498 50	
Machines (detached),	645 18	
Paints, oil, glass, etc.,	1,193 42	
Plumbing, steam fitting and supplies,	1,188 54	
Roofing and materials,	23 57	
Sundries,	960 53	
	<hr/>	5,943 81
Farm, stable and grounds: —		
Blacksmith and supplies,	\$217 70	
Carriages, wagons, etc., and repairs,	332 70	
	<hr/>	
<i>Amounts carried forward,</i>	\$550 40	\$117,288 67

<i>Amounts brought forward,</i>	\$550 40	\$177,288 67
Farm, stable and grounds — <i>Con.</i>		
Fertilizers, vines, seeds, etc.,	865 98	
Hay, grain, etc.,	6,131 37	
Harnesses and repairs,	123 87	
Horses,	440 00	
Other live stock,	372 75	
Tools, farm machines, etc.,	248 56	
Sundries,	399 19	
		9,132 12
Religious services,		1,321 84
Miscellaneous: —		
Books, periodicals, etc.,	\$34 56	
Cuspidor supplies,	633 15	
Entertainments,	172 38	
Freight, expressage and transportation,	1,195 34	
Funeral expenses,	20 00	
Medical attendance, nurses, etc. (extra),	2,238 22	
Manual training supplies,	54 00	
Postage,	466 44	
Printing and printing supplies,	377 37	
Soap and laundry supplies,	1,137 54	
Stationery and office supplies,	1,020 71	
School books and school supplies,	2 00	
Travel and expenses (officials),	352 37	
Telephone and telegraph,	1,018 02	
Tobacco,	7 95	
Water,	2,933 65	
Sundries,	1,051 75	
		13,375 45
Total expenses for maintenance,		\$201,118 08
Wages refunded account of 1913 expenses,		7 15
		\$201,110 93
SPECIAL APPROPRIATIONS.		
Balance Dec. 1, 1913,		\$4,620 81
Appropriations for fiscal year,		1,150 00
Total,		\$5,770 81
Expended during the year (see statement annexed),	\$5,226 49	
Reverting to treasury of Commonwealth,	5 42	
		5,231 91
Balance Nov. 30, 1914,		\$538 90

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$8,707 29	
October and November cash vouchers (paid from advance money):—		
Account of maintenance,	\$13,248 78	
Account of special appropriations,	27 42	
	<hr/>	13,276 20
Due from treasury of Commonwealth, balance of appropriation,	653 08	
	<hr/>	\$22,636 57
<i>Liabilities.</i>		
Schedule of October and November bills,		\$29,581 50

PER CAPITA.

During the year the average number of inmates has been 350.

Total cost for maintenance, \$201,110.93.

Equal to a weekly per capita cost of \$11.05.

Receipt from sales, \$4,823.96.

Equal to a weekly per capita of \$0.265.

All other institution receipts, \$38,468.53.

Equal to a weekly per capita of \$2.1136.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Road,	Acts 1912, chap. 88	\$1,400 00	\$356 40	\$1,394 58	\$5 42 ¹
Repairs, 1913,	Acts 1913, chap. 119	5,222 01	3,954 16	4,917 18	304 83
New poultry houses,	Acts 1914, chap. 85	1,000 00	852 23	852 23	147 77
Watchman's clock,	Acts 1914, chap. 85	150 00	63 70	63 70	86 30
		\$7,772 01	\$5,226 49	\$7,227 69	\$538 90

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

ELLIOTT WASHBURN,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

WARREN A. MERRILL,

Assistant Supervisor of Accounts.

VALUATION.

INVENTORY.

Land:¹—

Garden, 7.01 acres,	\$1,752 50	
Field crops, 26.37 acres,	2,637 00	
Orchard and fruit, 6.75 acres,	1,350 00	
Meadow, 106.85 acres,	9,363 00	
Pasture, 10.67 acres,	266 75	
Lawns and buildings, 31.21 acres,	10,554 41	
Permanent woodland, 69 acres,	2,415 00	
Rough pasture (too rough to cultivate), 90.67 acres,	1,360 05	
Other land (roads, sewer beds), 15.98 acres,	1,100 00	
Sewerage system,	19,400 00	
		<hr/>
Total, 364.51 acres,		\$50,198 71

Buildings:—

Institution buildings,	\$442,500 00	
Farm, stable and grounds,	26,500 00	
Miscellaneous,	2,200 00	
		<hr/>
Total,		471,200 00
		<hr/>
Grand total,		\$521,398 71

Present value of all personal property as per inventory taken

Dec. 1, 1914,	\$46,254 49
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¹ This year we inventoried our land under the headings furnished by the State Auditor for our farm account.

FARM ACCOUNT.

During the year a new system of farm accounting was inaugurated by the department of State Auditor. The yearly report under this system is an exhaustive affair and is too bulky for reproduction in this report. A copy is filed with the Trustees of Hospitals for Consumptives and one is on file in the office of the State Auditor. The more interesting portions, condensed, are here given. The prices are those fixed by the Auditor:—

Farm Produce.

Barley, 25 tons, at \$5,	\$125 00
Corn, green feed, 25 tons, at \$5,	125 00
Hay, 165 tons, at \$20.75,	3,423 75
Millet, 40 tons, at \$5,	200 00
Oats, 100 tons, at \$5,	500 00
Hungarian, 35 tons, at \$5,	175 00
Potatoes, 601 $\frac{5}{12}$ bushels, at \$0.55,	330 78
Beans, string, 21 $\frac{1}{2}$ bushels, at \$0.85,	18 28
Beans, shell, 55 $\frac{1}{2}$ bushels, at \$0.85,	47 18
Beets, 107 bushels, at \$0.60,	64 20
Beet greens, 59 bushels, at \$0.40,	21 20
Cabbage, 20 $\frac{53}{100}$ hundredweight, at \$0.65,	13 34
Carrots, 92 $\frac{1}{2}$ bushels, at \$0.60,	55 50
Cauliflower, 16 $\frac{1}{2}$ bushels, at \$0.55,	8 89
Corn, sweet, 93 $\frac{1}{2}$ bushels, at \$0.60,	56 10
Cucumbers, 47 $\frac{1}{4}$ boxes, at \$1,	47 25
Lettuce, 101 boxes, at \$0.25,	25 25
Onions, 8 bushels, at \$0.60,	4 80
Parsnips, 11 bushels, at \$0.65,	7 15
Peas, green, 3 bushels, at \$2,	6 00
Peppers, green, 1 $\frac{1}{2}$ bushels, at \$0.50,	75
Radishes, 4 $\frac{1}{5}$ bushels, at \$0.75,	3 33
Rhubarb, 942 pounds, at \$0.01,	9 42
Spinach, 14 bushels, at \$0.35,	4 90
Squash, summer, 60 $\frac{1}{10}$ barrels, at \$0.60,	36 01
Squash, winter, 38 $\frac{1}{10}$ hundredweight, at \$20 per ton,	34 02
Tomatoes, 60 $\frac{1}{2}$ bushels, at \$1,	62 50
Turnips, 10 bushels, at \$0.75,	7 50
Apples, 18 $\frac{4}{5}$ barrels, at \$2,	37 60
Apples, 33 barrels, at \$1.50,	49 50
Milk, 117,803 $\frac{1}{2}$ quarts, at \$0.055,	6,675 53
Total,	\$12,175 73

Received from sale of calves, cows,	\$762 00
Received from sale of veal,	16 38
Received from sale of pork,	2,506 20
<hr/>	
Total,	\$3,284 58

Products of Poultry Department.

Eggs, 86,293 dozen, at \$0.25,	\$1,797 77
Fowl, dressed, 2,212½ pounds,	396 71
Sundries,	4 39
<hr/>	
Total,	\$2,198 87

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference on Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	178	178	356
Number received during year,	202	267	469
Number discharged during year,	200	276	476
Number of deaths included in preceding item,	23	14	37
Number at end of fiscal year,	180	169	349
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	178	172	350
Average number of officers and employees during year, .	133.6	80.1	213.7

Expenditures.

Current expenses:—

1. Salaries and wages,	\$74,773 09
2. Clothing,	116 36
3. Subsistence,	74,134 61
4. Ordinary repairs,	5,943 81
5. Office, domestic and outdoor expenses, .	46,143 06
	\$201,110 93

Extraordinary expenses:—

1. Permanent improvements to existing buildings, .	4,806 39
--	----------

Grand total, \$205,917 32

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1913, . . .	178	178	356
Number admitted Nov. 30, 1913, to Dec. 1, 1914, . . .	202	267	469
Number discharged Nov. 30, 1913, to Dec. 1, 1914, . . .	200	276	476
Number remaining in sanatorium Nov. 30, 1914, . . .	180	169	349
Daily average number of patients,	178	172	350
Died (included in number discharged),	23	14	37

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	118	152	270
Married,	81	96	177
Widowed,	2	18	20
Divorced,	1	1	2
Totals,	202	267	469

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	25	35	60
20 to 30 years,	102	137	239
30 to 40 years,	48	58	106
40 to 50 years,	25	35	60
Over 50 years,	2	2	4
Totals,	202	267	469

TABLE 4. — *Nativity of Patients admitted.*

PATIENTS BORN IN —	Males.	Females.	Totals.	FATHERS BORN IN —	Males.	Females.	Totals.
United States,	117	155	272	United States,	53	74	127
Canada,	21	34	55	Canada,	27	52	79
Ireland,	13	30	43	Ireland,	44	69	113
Russia,	29	20	49	Russia,	33	22	55
England,	6	8	14	England,	15	8	23
Sweden,	3	3	6	Sweden,	9	7	16
Germany,	3	2	5	Germany,	5	6	11
Italy,	2	1	3	Italy,	5	5	10
Scotland,	1	1	2	Scotland,	2	4	6
Austria,	2	3	5	Austria,	1	4	5
Norway,	—	2	2	Norway,	—	4	4
Turkey,	1	1	2	Turkey,	1	2	3
Poland,	—	1	1	Poland,	—	1	1
Denmark,	—	—	—	Denmark,	—	1	1
Syria,	—	1	1	Syria,	—	1	1
Bohemia,	—	—	—	Bohemia,	—	1	1
Armenia,	1	1	2	Armenia,	1	1	2
British Columbia,	—	1	1	British Columbia,	—	1	1
Holland,	—	1	1	Holland,	—	1	1
West Indies,	1	—	1	West Indies,	1	1	2
Belgium,	—	—	—	Belgium,	1	—	1
Portugal,	—	—	—	Portugal,	1	—	1
Roumania,	1	—	1	Roumania,	1	—	1
Egypt,	—	1	1	Egypt,	—	—	—
Unknown,	1	1	2	Unknown,	1	2	3
Newfoundland,	—	—	—	Newfoundland,	1	—	1
Totals,	202	267	469	Totals,	202	267	469

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Adams,	—	1	1	Malden,	6	5	11
Amesbury,	1	1	2	Mansfield,	—	1	1
Amherst,	1	—	1	Marlborough,	—	1	1
Arlington,	2	1	3	Medford,	3	2	5
Athol,	1	—	1	Melrose,	—	2	2
Attleborough,	4	3	7	Middleborough,	—	1	1
Avon,	—	1	1	Monson,	1	—	1
Blackstone,	1	—	1	Natick,	—	1	1
Boston,	90	121	211	Needham,	—	3	3
Braintree,	1	—	1	New Bedford,	—	2	2
Broekton,	2	2	4	Newburyport,	4	—	4
Brookfield,	2	—	2	Newton,	—	2	2
Brookline,	1	—	1	Northampton,	—	1	1
Cambridge,	5	9	14	Northfield,	—	1	1
Chatham,	—	1	1	Orleans,	1	—	1
Chelsea,	2	6	8	Peabody,	—	2	2
Cohasset,	—	1	1	Pittsfield,	—	1	1
Concord,	—	2	2	Plainville,	—	1	1
Dedham,	1	—	1	Quincy,	—	1	1
Dudley,	1	—	1	Randolph,	1	—	1
Everett,	2	6	8	Readville,	—	1	1
Fall River,	1	1	2	Revere,	—	2	2
Fitchburg,	1	4	5	Rockland,	—	3	3
Framingham,	5	2	7	Rutland,	10	4	14
Gardner,	—	1	1	Salem,	4	—	4
Gloucester,	1	—	1	Santuit,	1	—	1
Groveland,	—	1	1	Sherborn,	1	—	1
Hampton Falls,	—	1	1	Somerville,	9	10	19
Haverhill,	4	2	6	Southbridge,	—	1	1
Holyoke,	1	1	2	Springfield,	3	2	5
Hudson,	—	1	1	Stoneham,	—	1	1
Ipswich,	—	1	1	Stoughton,	3	2	5
Lawrence,	—	3	3	Swampscott,	1	1	2
Leominster,	—	2	2	Waltham,	—	3	3
Lowell,	5	3	8	Watertown,	2	—	2
Lynn,	9	10	19	Waverley,	—	1	1

TABLE 5. — *Residence of Patients admitted* — Concluded.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Webster,	-	2	2	Whitman,	-	1	1
Wellesley,	-	1	1	Williamstown,	-	2	2
Westborough,	-	1	1	Winthrop,	-	2	2
Westford,	-	2	2	Worcester,	8	7	15
Westwood,	-	2	2	Totals,	202	267	469
Whitinsville,	-	1	1				

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Actor,	1	-	1	Corset fitter,	-	1	1
Artist,	1	-	1	Cutter, shoe,	4	-	4
Attendant,	4	1	5	Cutter, stone,	1	-	1
Automobile repairer,	1	-	1	Domestic,	-	14	14
Baker,	2	-	2	Dressmaker,	-	5	5
Barber,	1	-	1	Electrician,	2	-	2
Bell boy,	1	-	1	Elevator boy,	1	-	1
Bill poster,	1	-	1	Engineer, stationary,	1	-	1
Blacksmith,	1	-	1	Errand boy,	1	-	1
Bookbinder,	1	2	3	Factory,	28	43	71
Bookkeeper,	3	3	6	Farmer,	1	-	1
Box maker,	-	2	2	Fireman, stationary,	1	-	1
Brakeman, freight,	3	-	3	Flagman,	1	-	1
Brakeman, passenger,	1	-	1	Florist,	1	-	1
Buyer,	-	1	1	Furrier,	1	-	1
Canvasser,	-	1	1	Gas fitter,	1	-	1
Carpenter,	5	-	5	General work,	4	3	7
Cashier,	-	1	1	Grocer,	1	-	1
Chauffeur,	1	-	1	Hoseman,	1	-	1
Cigar maker,	1	-	1	Housewife,	-	91	91
Clerk,	26	14	40	Housework,	-	12	12
Conductor, street railway,	4	-	4	Ice cream maker,	1	-	1
Cook,	2	2	4	Inspector,	2	-	2

TABLE 6. — *Occupations* — Concluded.

	Males.	Females.	Totals.		Males.	Females.	Totals.
Laborer,	5	-	5	Porter,	1	-	1
Lampighter,	1	-	1	Printer,	5	1	6
Laundress,	-	3	3	Rope maker,	1	-	1
Leather worker,	2	-	2	Salespeople,	7	4	11
Librarian,	-	1	1	Seamstress,	-	2	2
Lineman,	2	-	2	Sheet metal worker,	1	-	1
Machinist,	5	-	5	Steam fitter,	1	-	1
Manager,	2	-	2	Stenographer,	1	7	8
Manicurist,	-	1	1	Steward,	1	-	1
Milliner,	-	2	2	Student,	6	8	14
Molder,	2	-	2	Tailor,	8	2	10
Monotype operator,	-	1	1	Teacher, drawing,	-	1	1
Motorman,	3	-	3	Teacher, piano,	-	3	3
Musician,	1	-	1	Teacher, school,	-	3	3
No work,	7	13	20	Teamster,	10	-	10
Nurse maid,	-	2	2	Telephone operator,	-	5	5
Nurse, student,	-	2	2	Tinsmith,	1	-	1
Nurse, trained,	-	4	4	Upholsterer,	2	-	2
Officer,	2	-	2	Vocalist,	1	-	1
Painter,	4	-	4	Waiter,	2	6	8
Peddler,	4	-	4	Totals,	202	267	469
Plumber,	1	-	1				

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	65	112	177	37.74
Moderately advanced,	106	107	213	45.41+
Far advanced,	27	45	72	15.35
Nontuberculous,	4	3	7	1.49
Totals,	202	267	469	-

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	85	105	190
Improved,	49	107	156
Unimproved,	27	32	59
Died,	23 ¹	14	37
Nontuberculous,	5	4	9
Not considered,	11 ¹	14	25
Totals,	200	276	476

¹ One "not considered" case included in deaths.TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	DURATION.	Length of Stay.	Cause of Death.
9205	4 months, .	11 months, 21 days, .	Pulmonary tuberculosis.
9389	8 years, . .	7 months, 4 days, .	Tuberculosis of the spine and pulmonary tuberculosis.
9110	2 years, . .	14 months, 8 days, .	Laryngeal and pulmonary tuberculosis.
9172	1 year, . .	13 months, 12 days, .	Tuberculous meningitis and pulmonary tuberculosis.
7990	1 year, . .	39 months, 11 days, .	Pulmonary tuberculosis.
8945	4 years, . .	18 months, 27 days, .	Pulmonary tuberculosis.
9487	12 years, . .	5 months, 23 days, .	Pulmonary tuberculosis.
8865	3 years, . .	20 months, 28 days, .	Tuberculous enteritis and pulmonary tuberculosis.
8584	2½ years, . .	28 months,	Hæmoptysis and pulmonary tuberculosis.
9529	1¼ years, . .	5 months,	Spontaneous pneumothorax and pulmonary tuberculosis.
9243	5 years, . .	13 months, 10 days, .	Pulmonary tuberculosis.
9289	2 years, . .	11 months, 13 days, .	Acute stenosis of trachea and pulmonary tuberculosis.
9291	1 year, . .	11 months, 16 days, .	Pulmonary tuberculosis.
8868	6 months, . .	21 months, 15 days, .	Tuberculous meningitis and pulmonary tuberculosis.
9474	1 year, . .	7 months, 14 days, .	Laryngeal and pulmonary tuberculosis.
9406	1 year, . .	9 months, 10 days, .	Pulmonary tuberculosis.
9217	5 months, . .	14 months, 20 days, .	Pulmonary tuberculosis.
9119	1 year, . .	17 months, 22 days, .	Pulmonary tuberculosis.
9740	7 months, . .	1 month, 3 days, .	Hæmoptysis and pulmonary tuberculosis.
8642	1 year, . .	28 months, 26 days, .	Pulmonary tuberculosis.
9728	4 years, . .	1 month, 26 days, .	Tuberculous meningitis and pulmonary tuberculosis.
8857	1½ years, . .	23 months, 24 days, .	Pulmonary tuberculosis.
9709	3 years, . .	3 months, 9 days, .	Pulmonary tuberculosis.

TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death*—Concluded.

No.	DURATION.	Length of Stay.	Cause of Death.
9283	8 months, .	14 months, 28 days, .	Pulmonary tuberculosis.
8989	6 months, .	23 months, 9 days, .	Tuberculous peritonitis and pulmonary tuberculosis.
9738	1 year, . .	2 months, 25 days, .	Pulmonary tuberculosis.
9212	6 months, .	17 months, 23 days, .	Pulmonary tuberculosis.
9382	1 year, . .	13 months, 17 days, .	Pulmonary tuberculosis.
9112	7 months, .	21 months, 30 days, .	Tuberculous enteritis and pulmonary tuberculosis.
9927	1 year, . .	2 days, . . .	Tuberculous meningitis and pulmonary tuberculosis.
9881	2 years, . .	2 months, 21 days, .	Pulmonary tuberculosis.
9293	6 months, .	18 months, 2 days, .	Empyema and pulmonary tuberculosis.
9721	1½ years, .	7 months, . . .	Tuberculous meningitis and pulmonary tuberculosis.
9367	6 months, .	16 months, 21 days, .	Paraplegia and pulmonary tuberculosis.
9919	2 years, . .	4 months, 9 days, .	Pulmonary tuberculosis.
10037	5 months, .	1 month, 8 days, .	Pulmonary tuberculosis.
9339	4 months, .	19 months, 6 days, .	Hæmoptysis, bronchopneumonia, and pulmonary tuberculosis.

Climatological Data, Rutland State Sanatorium, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1913, and ending Nov. 30, 1914.

DATE.	TEMPERATURE (DEGREES).		Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	PRECIPITATION.			WIND (MILES).			Mean Relative Humidity (Per Cent.).
	Mean.	Departure from Normal.					Rain.	Departure from Normal.	Snow.	Total.	Average per Hour.	Departure from Normal.	
1913.													
December,	31.4	+6.1	10	10	3	5	2.23	-1.23	2.6	5,855.8 ¹	10.5	-2	74.9
1914.													
January,	20.7	-2.3	11	10	10	18	7.38	+4.10	15.8	9,830.0	13.2	+1.6	84.2
February,	17.3	-3.0	15	11	2	9	3.64	+0.63	22.8	7,939.2	12.2	-0.2	78.4
March,	30.1	-1.3	6	19	6	13	5.75	+1.97	10.1	8,244.3	11.1	+0.2	86.1
April,	38.3	-4.8	13	4	5	13	5.44	+1.56	3.5	5,524.7 ¹	10.4	-1.0	75.5
May,	57.8	+3.1	20	7	3	9	3.38	+0.25	-	6,801.0 ³	9.5	-0.9	64.8
June,	62.3	-0.1	15	9	6	8	2.11	-2.08	-	6,536.1	8.7	-0.3	69.6
July,	65.7	+3.1	11	11	9	17	3.29	-0.45	-	5,337.5	7.2	-1.3	82.1
August,	67.0	+1.9	12	9	10	16	4.97	+0.67	-	5,777.8	7.8	-2	85.5
September,	60.7	+1.0	20	4	6	4	.13 ⁴	-4.14	-	5,362.1	7.4	-1.0	70.1
October,	52.6	+3.4	18	7	6	7	1.73	-2.15	-	6,469.9	8.7	-0.4	77.2
November,	35.2	+2.0	11	10	9	8	3.03	+0.28	9.8	8,494.9	11.8	+1.4	70.8
Totals,	539.1	-	162	111	75	127	43.08	+0.45	64.8	82,172.8	118.5	-	919.2
Averages,	44.9	+0.1	13+	9+	6+	10+	3.59	+0.04	-	6,947.7	9.9	+0.1	76.6

¹ Eight days missing.

² Normal.

³ One day missing.

⁴ Minimum amount of precipitation of any month on record.

NINTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS

FOR CONSUMPTIVES.

NOVEMBER 30, 1915.



BOSTON:

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TRUSTEES.

ARTHUR K. STONE, M.D., *Chairman.*

CHARLES J. DOWNEY, M.D.	SYLVIA B. KNOWLTON.
GEORGE A. DUNN.	DANIEL L. PRENDERGAST.
ALBERT C. GETCHELL, M.D.	SIMON SWIG.

JOHN B. HAWES, 2D, M.D., *Secretary.*

STATE HOUSE, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report: —

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland State sanatoria, caring for about 1,000 patients, have passed an active and successful year. They have provided a total of 388,052 days of treatment for 2,482 patients.

It is the intention of the trustees, in conformity with the general policy of the State with regard to tuberculosis, ultimately to conduct four sanatoria for the active treatment and arrest of early and favorable cases of pulmonary tuberculosis. This ideal can only be attained when there are enough beds in municipal tuberculosis hospitals so that the trustees no longer have to give so much consideration to the question of segregation of the open case of tuberculosis and the protection of the public as they do at present. The comprehensive plans of the State Department of Health, with its efficient, active district inspectors, give us the greatest hopes that there will develop in time an enthusiastic co-operative spirit throughout the Commonwealth in regard to all health matters, and that when this time comes the four institutions under our charge will be thus enabled to play the part assigned them, of doing real sanatorium work and that alone. Therefore we bespeak the hearty co-operation and support of all municipal hospitals, health boards, private charities and also of every practicing physician in the Commonwealth to aid us in this endeavor.

THE CLASS OF PATIENTS ADMITTED TO THE STATE SANATORIA.

In the early years of our State sanatoria, when there were comparatively few local tuberculosis hospitals, it was deemed wise to admit to each of the institutions under the charge of this Board, with the exception of the Rutland State Sanatorium, patients in whatsoever stage of the disease, whether incipient, moderately advanced or far advanced. Although it was fully realized that to carry out a strict sanatorium régime under these conditions was well-nigh impossible, yet it seemed of paramount importance to get these dangerous and most infectious cases away from their homes as soon as possible. Since that time, five or six years ago, there has been a steady increase in the number of beds in local tuberculosis hospitals, — from 330 in 1911 to 1,120 at present. During the past year, therefore, the Board has felt that more discrimination should be used in the selection of patients for the State sanatoria than has been the case in the past, and that the institutions at North Reading, Lakeville and Westfield should be sanatoria in fact as well as in name.

While the Rutland institution is the only one set apart from its opening in 1898 for incipient and early cases, at the North Reading, Lakeville and Westfield sanatoria patients in the far advanced or progressive stages are now no longer admitted except in special instances, unless there are beds actually lying vacant. The Board does not feel that any injustice will be done to any patient by making such a rule as this. From long experience it has learned that when most patients reach a far advanced stage, and are going steadily down hill, they naturally prefer to return either to their own homes or to a local institution where they can be near relatives and friends. It is right and proper, therefore, not only for the welfare of the sanatorium and for the other patients, but also for the patient himself, to decline to admit those who are manifestly in an incurable condition.

WAITING LIST.

The waiting list for the four sanatoria is a distressingly long one. At the present time there are about 400 men and women upon this list. It is necessary for a man to wait three months

and for a woman a slightly shorter time before they can be admitted. Although local accommodations in the way of municipal hospitals, etc., are constantly being increased, the demand on our State sanatoria seems in no way diminished, but rather the reverse. This does not necessarily mean that tuberculosis in this State is increasing, but it is, on the other hand, a decidedly hopeful sign, in that owing to the establishment of local dispensaries, etc., more cases than heretofore are being diagnosed and are seeking sanatorium treatment.

SANATORIUM AND HOSPITAL CLASSES.

The system of dividing the patients at our State sanatoria into two groups — the sanatorium and the hospital classes — has been continued as heretofore with equally good results as in the past. Owing to the length of our waiting list the Board feels that it is proper to be more strict in readmitting patients who have had one opportunity at the State sanatoria and who have not seen fit to co-operate with the physicians nor to take advantage of the treatment offered them there. These are the patients which comprise the hospital class. It is only in special instances, therefore, that patients who are discharged from our sanatoria as of the hospital class are readmitted. On the other hand, patients who have been in the sanatorium class, and who have co-operated in every way with their physicians and have really tried to get well, are on request discharged on parole, which means that should they suffer a relapse later on and need further treatment they can be readmitted without waiting their regular turn on the list. In this way a premium is put upon good behavior and earnestness of purpose at our sanatoria.

AFTER-CARE WORK — DISCHARGED PATIENTS.

As mentioned in previous reports the Board has felt that the responsibility of the State towards the tuberculosis patients being cared for in the State sanatoria does not altogether end when the patient is discharged from the institution. In view of this feeling, for the past three years the Board has engaged the full-time services of a special worker, Miss Bernice W. Billings, whose sole duty it is to visit, advise and assist in every way possible those patients who have been discharged

from State sanatoria. Her detailed report will be found elsewhere. As might well be supposed, this has been an arduous task and one which it is quite impossible for any one person to cope with successfully. With the help of the recently reorganized State Department of Health, however, this problem is rendered an easier one.

The law passed in 1910, requiring a local tuberculosis dispensary in every city or town of 10,000 inhabitants or over, which in most instances had been allowed to remain a dead letter, has been tactfully enforced by the present Health Department. A tuberculosis nurse on full time or part time, as local needs may require, has been looked upon as an absolutely essential part of such local dispensaries. Whereas before the existence of these local tuberculosis dispensaries it was only in rare instances that patients discharged from our State sanatoria could be referred to a place where they could be carefully followed up and kept under observation, it is now quite different. In almost every case it is possible to direct a patient leaving our sanatoria to some well-equipped tuberculosis dispensary where the best of advice and treatment can be obtained, and where the patient can be followed up during that critical period following the discharge from the sanatorium. Miss Billings' work, therefore, will be in future largely devoted to looking up patients coming from isolated country districts, where there is no local dispensary or where the dispensary is at such a distance that it is hard for the patient to make regular visits. While there will always be a large number of patients who will be in need of Miss Billings' services, the Board feels that her work will be more and more that of bringing about a closer co-operation between the State sanatoria on the one hand, and local hospitals and dispensaries on the other, than in looking after this or that individual patient. The Board feels at present, as it has always felt in the past, that a comparatively small number of patients can be actually permanently cured or arrested during their residence at our State sanatoria, and that this process of cure must be continued after the patient leaves the sanatorium. The proper care of the discharged sanatorium patient, therefore, is one of the most important problems of tuberculosis work.

After-care Work, Nov. 1, 1914, to Nov. 1, 1915.

	Number.	Per Cent.
Cities and towns,	149	-
Calls,	879	-
Histories obtained,	602	-
Histories sent to the State Department of Health (27 of these were ex-sanatoria patients and 86 were special histories),	113	-
Ex-sanatoria patients,	516	-
Patients discharged from Rutland,	169	32.75
Patients discharged from Lakeville,	122	23.64
Patients discharged from North Reading,	121	23.46
Patients discharged from Westfield,	104	20.15
Classification on admission: —		
Incipient,	83	16.08
Moderately advanced,	210	40.70
Advanced,	216	41.86
Not examined,	7	1.36
Classification on discharge: —		
Arrested,	170	32.95
Improved,	190	36.82
Unimproved,	111	21.51
Not examined,	45	8.72
Positive sputum on discharge,	217	42.00
Patients who left the State, etc.,	77	14.92
Patients who have died,	48	9.31
Patients visited,	391	75.77
Condition of patients at time of visit: —		
Good condition,	190	36.82
Fair,	90	17.44
Ill,	111	21.51
Patients working at time of visit,	175	44.76
Patients not working at time of visit,	216	55.24
Patients under medical supervision,	266	68.10
Patients not under medical supervision,	125	31.90
Out of 391 patients visited, adequate instruction by boards of health has been given to	170	43.48
Out of 516 homes visited, the local boards of health have disinfected	241	46.71

EX-PATIENTS ON THE PAY ROLL.

The Board has still continued its policy of offering employment to patients who on discharge are found to be suited for work which the sanatorium can provide. At the North Reading Sanatorium during the past year there have been 8 ex-patient employees; at Lakeville Sanatorium, 10; at Westfield, 37; and at Rutland, 91, making a total of 146 ex-patients who have been given employment and kept under proper medical supervision in the four State sanatoria.

The employment of ex-patients at our sanatoria is not without certain disadvantages. The question of segregating these

tuberculous employees, or at least those who although perfectly able to work still have bacilli in the sputum, from the nontuberculous employees is an important one and one that must be satisfactorily met. Again, although from the point of view of the individual employee it is an excellent thing for him to be given work under constant supervision, it is doubtful whether from the point of view of economy to the State this is a wise procedure. A certain number of these patients will inevitably break down and cause consequent detriment to the efficiency of the working staff; and finally, it has come to notice that there is a certain bond existing between most ex-patients staying on at the sanatorium as employees and their former friends and companions who are still patients, which does not always work to the advantage of the sanatorium management. At the same time, it must be recognized that some of our most efficient and trusted employees are ex-patients. On the whole, for the best interests of the sanatorium administration the Board is inclined to restrict rather than to extend this policy of employing ex-patients. In the meantime the whole matter will have careful consideration.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past and has steadily increased. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and anti-tuberculosis workers not only in Massachusetts but all over the country. The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the State work. Members of the Board and the four superintendents have given many informal talks on the subject of tuberculosis to the patients in the sanatoria, and outside at women's clubs, meetings of physicians and other public meetings. In addition to this, articles of medical and scientific interest, based on work carried on in the sanatoria, have been published in medical journals from time to time. A list of such articles is appended. The "Journal of the Massachusetts State Sanatoria," a paper pub-

lished at the Rutland State Sanatorium, in addition to giving items of news from the four sanatoria, contains numerous articles of interest and value not only to patients but to their friends and to the public at large. This paper is distributed to the patients, anti-tuberculosis associations, physicians and to many others who have asked that their names be put upon the mailing list. The New England Tuberculosis Conference was held at Springfield with one day's session at the Westfield State Sanatorium. District medical society meetings have been held at the Lakeville State Sanatorium and elsewhere. His Excellency Governor Walsh appointed the superintendents as delegates to the National Tuberculosis Association and to the American Sanatorium Association. In addition to this our superintendents and members of the Board have taken active part in numerous meetings of health boards, medical societies, etc., on matters relating to tuberculosis.

The following articles, based on anti-tuberculosis work in Massachusetts, in our State sanatoria and elsewhere, have been written and published during the past year by members of the Board and the superintendents: —

Dr. Arthur K. Stone: —

The Policy of the State of Massachusetts regarding Tuberculosis.
(Massachusetts Medical Society, June, 1915.)

Dr. Elliott Washburn: —

The Rôle of the State Sanatorium in the Tuberculosis Problem.
(Boston Medical and Surgical Journal, March 25, 1915.)

Non-tuberculous Cases in the State Sanatoria. (Boston Medical and Surgical Journal, Oct. 25, 1915.)

Dr. Henry D. Chadwick: —

Discussion of paper of Dr. John L. Morse, "Tuberculosis in Children." (Massachusetts Medical Society, June, 1915.)

Dr. Sumner Coolidge: —

Four Essentials of Sanatorium Treatment. (Journal of Outdoor Life, November, 1915.)

Dr. N. B. Burns: —

Some Possibilities of Treatment among the Tuberculous Insane.
(Wm. L. Worcester Series of Danvers State Hospital Papers.)

Dr. W. B. Howes: —

Differential Diagnosis in Pulmonary Tuberculosis. (Read before Worcester County Homœopathic Medical Society. Not yet published.)

Dr. John B. Hawes, 2d:—

The Treatment of Tuberculous Cervical Adenitis. (Massachusetts Medical Society, June, 1915.)

The Responsibility of the General Practitioner for the Care and Supervision of the Discharged Sanatorium Patient. (Boston Medical and Surgical Journal, May 27, 1915.)

The Present Situation in Regard to Local Tuberculosis Hospitals. (Boston Medical and Surgical Journal, Aug. 12, 1915.)

Errors in the Diagnosis of Chronic Pulmonary Disease. (Boston Medical and Surgical Journal, Oct. 28, 1915.)

Do's and Don'ts in the Diagnosis of Early Pulmonary Tuberculosis in Adults and Children. (Boston Medical and Surgical Journal, May 20, 1915.)

Tuberculosis in the Aged. (American Journal of Medical Science, May, 1915.)

REPORT ON LARYNGEAL TUBERCULOSIS AND THE TREATMENT OF OTHER NOSE AND THROAT CONDITIONS.

Cases of tuberculosis in the region of the throat are classified as laryngeal tuberculosis when there is infiltration of a part or whole of the larynx with or without ulceration. The parts usually involved are the arytenoids, ventricular bands, cords and epiglottis; also there may be roughening and tumefaction in the interarytenoid space. Small or even moderate growth of tissue in the interarytenoid space, if not accompanied by change elsewhere, is not classified as tubercular laryngitis.

Number of Cases.

SANATORIUM.	Total.	Male.	Female.	Percentage.
Rutland,	70	46	24	7.9
North Reading,	28	16	12	11.0
Lakeville,	53	35	18	
Westfield,	18	10	8	

The smaller proportion of cases at the Rutland State Sanatorium is due to the fact that this institution is reserved for patients in the early and incipient stages of the disease, while at the other three institutions patients in all stages are accepted. At the Rutland Sanatorium there

were 9 cases with involvement of the epiglottis; at the North Reading Sanatorium, 5; at the Westfield Sanatorium, 4; and at the Lakeville Sanatorium, 3 patients with this complication.

Treatment.

Rest of the larynx by non-use of voice is of first and paramount importance. A conservative feeling is developing regarding application of medicinal agents to the larynx. Dr. Lyon of the Rutland State Sanatorium says, "We have learned that a tuberculous larynx may be overtreated; while an ulcerated cord, arytenoid or ventricular band will stand vigorous treatment for a short time, sooner or later, if strong solutions of lactic acid or formaline are used, the surrounding tissues will become badly inflamed."

Galvano-cautery has been applied in two cases at Rutland by the indirect method with cocaine anæsthesia. In each of these cases the patient was discharged six months later with the throat apparently cured.

Results of Treatment.

At the Rutland State Sanatorium, out of 70 patients with laryngeal involvement 27 are recorded as apparently cured, 14 improved, 9 unimproved, while 20 progressed unfavorably. At the North Reading State Sanatorium, out of 28 cases 6 are recorded as apparently cured or improved. At the Westfield Sanatorium, out of 18 cases 3 are recorded as apparently cured or improved.

Symptoms.

The most important symptom of laryngeal tuberculosis, and the one to which treatment is directed, is pain. This symptom is of importance not only because of the actual suffering of the patient but because it prevents the patient from taking a suitable amount of food. Of the 70 Rutland cases, 15, or 21 per cent., had pain as a prominent symptom. At the other sanatoria the percentage was still higher.

Amputation of the Epiglottis.

This, a major operation in throat work, I have performed twice with marked relief from pain. Injections into the superior laryngeal nerve for the relief from pain have been continued with good results. A solution consisting of 80 per cent. alcohol, quinine and urea hydrochloride, and 2 per cent. novocaine has been used. I am satisfied that this method is worthy of greater use than has been heretofore given to it. It is an effective method to relieve pain, and becomes more effective as one becomes more skillful in its use.

The Relation between Enlarged Tonsils and Cervical Adenitis.

This important question has been given careful study during the past year. I have reached the conclusion that there is no direct relation between the presence of enlarged healthy tonsils and cervical adenitis. The following figures from the Westfield State Sanatorium, where out of 313 patients treated 140 were children, are of interest:—

Enlarged tonsils:—

(a) Without glands,	16
(b) With glands,	24
Enlarged glands without tonsils,	37
Tonsils removed before admission,	12
History of tonsillitis,	24

The sanatorium physicians have reported in addition to tuberculosis of the larynx, one case of tuberculosis of the tonsil, one of tuberculosis of the nose, and two of tuberculosis of the tongue.

ALBERT C. GETCHELL, M.D.,
Trustee.

PRISON LABOR.

In the last report it was mentioned that the Board was giving serious consideration to the subject of employing prison labor at the four State sanatoria. During the past year this matter has been the subject of prolonged study. After numerous conferences with the Prison Commission and with others the matter was finally brought to a head. His Excellency Governor Walsh, with the consent of the Council, allowed an appropriation of \$5,000 from his contingent fund to try out this experiment at the Rutland State Sanatorium. With the help and supervision of Mr. Frank H. Randall, chairman of the Prison Commission, a shack for housing and feeding the prisoners, about 30 in number, and their custodians, was erected on the Rutland grounds, and on Oct. 6, 1915, 32 prisoners began work. This work consisted in clearing up waste and swamp land at the present time quite unavailable for any purpose, and destined to remain so if labor from the sanatorium itself or a special legislative appropriation had to be depended upon. The experiment has proved a success. There seems to be no difficulty

in caring for the prisoners, and there is no opposition from outside sources. The general physical condition of the prisoners has been greatly improved.

The Board is unanimous in its feeling that the use of prison labor should be extended to the other State sanatoria, and in its requests for special appropriations presented to the State Board of Charity has included a special sum for this purpose for each institution. At the Lakeville State Sanatorium this will be a comparatively easy matter, in that the prisoners can be brought from the State Farm at Bridgewater, not over 6 miles away, in an automobile truck, bringing their lunches with them and returning at night. At the Westfield and North Reading State sanatoria the problem is more difficult, and may, as is the case with the Rutland Sanatorium, involve the erection of shacks for purposes of housing and feeding. As far as the actual cost is concerned it would seem as if this would be largely a matter of bookkeeping after certain initial expenses had been met.

The Board therefore would strongly recommend that this method of employing prison labor be encouraged and developed to its fullest extent, so that the lands belonging to the Commonwealth may be brought in the course of time into the highest state of cultivation possible, and at the same time made to present an appearance worthy of the State.

ACKNOWLEDGMENTS.

The Board hereby acknowledges its indebtedness to the State Board of Charity, the State Department of Health, the State Agricultural College, Bureau of Animal Industry, Prison Commission and others for much timely advice and assistance in matters pertaining to its work.

LOCAL TUBERCULOSIS HOSPITALS, SUBSIDY DEPARTMENT.

To the Trustees of Hospitals for Consumptives.

During the fiscal year of 1915 there were filed by the cities and towns of this Commonwealth 1,961 applications for reimbursement under the provisions of chapter 637, Acts of 1912. After investigation 1,912 of

these cases were classified as suitable subsidy cases; the remaining number of cases were disallowed for reasons as follows: —

1. Ability of patient or of kindred to pay.
2. Financial aid by friends.
3. Negligence of cities and towns to file applications for reimbursement.
4. Filing of applications too late for full consideration.

As a rule, there is a very small percentage of the patients who have the financial means to pay for their care while at the hospital; the principal reasons thereof are as follows: —

1. The small weekly wages (especially noted in the manufacturing centers).
2. Irregular employment.
3. Large families.
4. Long illness.
5. Last but not least, — intemperance.

At the Pittsfield Tuberculosis Hospital there is the largest percentage of paying patients. This is due to the fact that this hospital charges only \$7 a week, while other local tuberculosis hospitals, as a rule, charge as high as \$12 and \$14 a week.

The Boston Infirmary Department (Long Island Hospital) has no pay patients. This is owing to the fact that this is a pauper institution where only homeless and dependent patients are admitted.

Most of the tuberculosis hospitals are full and have a waiting list. Boston, New Bedford and Fall River have the longest waiting lists. The hospitals at Salem and Lynn have the largest number of vacant beds. This is probably because of the high rate of \$14 and \$12 per week charged for board, because of which neighboring cities and towns do not send patients there.

There are now 23 tuberculosis hospitals, with a total of 1,120 beds, which have been approved under the terms of the subsidy act (chapter 637, Acts of 1912).

Lowell, Brockton, Malden and Newton are the largest cities which have not yet provided local accommodations for the care of their tuberculosis cases.

Of the 35 cities in the Commonwealth, 15, or less than half, have no local tuberculosis hospitals. The majority of these, however, send their tuberculosis patients to some neighboring tuberculosis hospital or to the State sanatoria. Clinton is the only town in the State with a tuberculosis hospital, although Brookline has one nearing completion. The town of Westfield has closed its local hospital and is now sending its patients to the Hampshire County Sanatorium.

In the year 1915 three new hospitals (Carter Memorial Hospital, Clinton, 21 beds; Channing Home, Boston, 22 beds; and Tuberculosis Hospital, Everett, 24 beds) were added to the list of approved tuberculosis hospitals.

New buildings are being constructed at the Boston Consumptives'

Hospital which will provide 134 additional beds. The New Bedford Sanatorium, besides increasing the capacity for adult patients, has also just completed a children's ward and schoolhouse for 26 patients at a cost of about \$7,000. The county of Barnstable has been authorized by statute to build a county hospital. Franklin County will probably make some arrangement to send its patients to the Hampshire County Sanatorium.

The State Department of Health is formulating plans of district hospitals to provide for those cities and towns that have not at present accommodations for their patients.

Respectfully yours,

LOUIS N. PHANEUF,

Examiner.

RECOMMENDATION.

The Board would respectfully recommend the repeal of chapter 592, Acts of 1912. This bill fixes the salary of the first stenographer and clerk. The Board would favor the repeal of this bill in order that the salary of this clerk may come under chapter 605, Acts of 1914, which fixes the salaries of clerks and stenographers in State departments. At the present time, owing to this act, the salary of this particular clerk does not come under the same ruling as do the others. For the sake of uniformity it would seem better to have all the salaries of this department come under the same ruling.

OFFICE DISBURSEMENTS.

Appropriation:—

Salaries,	\$7,669 49
Expenses,	4,700 00

\$12,369 49

Subsidy department, to pay bills incurred in

1914,	129,868 44
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\$142,237 93

Expenses:—

Salaries,	\$7,670 35
Expenses,	4,200 15

\$11,870 50

Subsidy department, to pay bills incurred in

1915,	165,651 50
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\$177,522 00

NORTH READING STATE SANATORIUM.

At the North Reading State Sanatorium 5 small pavilions accommodating 22 patients have been constructed to take the place of the tents which were formerly available for only a part of the year. A cement retaining wall and flooring has been built at the railroad siding where the sanatorium coal supply can be kept until needed. Various improvements have been made about the grounds. The daily average number of patients for the year has been 198, which is an increase of nearly 2 per cent. over that of last year.

Estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$39,148 50
Religious services,	1,425 00
Travel, transportation, office expenses,	1,455 00
Food,	31,611 50
Clothing and materials,	200 00
Furnishings,	2,570 00
Medical and general care,	2,395 00
Heat, light and power,	5,645 00
Farm and stable,	3,625 00
Grounds,	705 00
Repairs, ordinary,	2,150 00
Repairs and renewals (not recurring annually),	820 00
	<hr/>
	\$91,750 00
For special appropriations:—	
Medical building,	\$4,665 00
Storehouse and root cellar,	2,000 00
Fireproofing and enlarging power plant, addition of one extra boiler and refrigerating machine,	29,997 00
Improvement of lands, prison labor,	5,000 00
	<hr/>
	\$41,662 00

LAKEVILLE STATE SANATORIUM.

At the Lakeville State Sanatorium the average number of patients per year for the year 1915 has been 256. The winter bed capacity is 246. Twenty-six patients have been cared for in tents during the summer months. By an enlargement of

one of the shacks, beds have been provided to accommodate 8 of these 26 patients, and a special appropriation for the year 1916 is asked to permanently house the remainder.

The Board is of the same opinion at the present time as in the past that the institution will be greatly benefited by having a dairy of its own. This will not only produce milk at less cost than it can be obtained at present, but it also would ensure a safe and clean supply.

Estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$47,688 00
Religious services,	1,250 00
Travel, transportation, office expenses,	2,130 00
Food,	38,832 00
Clothing and materials,	150 00
Furnishings and household supplies,	5,293 00
Medical and general care,	3,580 00
Heat, light and power,	6,953 00
Farm and stable,	8,051 00
Grounds,	1,067 00
Repairs, ordinary,	4,170 00
Repairs and renewals (not recurring annually),	2,100 00
	<hr/>
	\$121,264 00

For special appropriations:—

Land and equipment for dairy,	\$21,600 00
Coal trestle and land for same,	4,000 00
New pavilion, 20 patients,	2,000 00
Improvement of lands, prison labor,	5,000 00
	<hr/>
	\$32,600 00

WESTFIELD STATE SANATORIUM.

At the Westfield State Sanatorium certain changes have been made which have improved the grounds and made the institution more attractive. A coal trestle has been built which greatly facilitates the unloading of coal.

In accordance with an appropriation granted last year a schoolhouse of excellent design has now been completed and will be in active use in the immediate future. Two teachers

have been employed during the year, and at the completion of the school building a third teacher will then be employed as principal to supervise the school work. The daily average school attendance has been about 110. There have been on the average about 125 children under fifteen years; 80 of these have been from five to twelve years. It is a self-evident fact that the establishment and maintenance of a school of this size at this sanatorium will necessarily cause an increase in the total cost of maintenance over that of our other State sanatoria. Further details concerning the care of children will be found in the superintendent's report.

Mrs. James Crane of Westfield presented the sanatorium with a greenhouse which has been set up and has proved a distinct addition to the institution.

The daily average number of patients has been approximately 254. The total number of beds at present available is 264.

Estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$50,000 00
Religious services,	1,290 00
Travel, transportation and office expenses,	3,870 00
Food,	33,000 00
Clothing and materials,	1,130 00
Furnishings and household supplies,	6,300 00
Medical and general care,	3,195 00
Heat, light and power,	7,550 00
Farm and stable,	10,850 00
Grounds,	160 00
Repairs, ordinary,	4,455 00
Repairs and renewals,	2,200 00
	<hr/>
	\$124,000 00

For special appropriations:—

Storage and horse barn, stable for young stock and dairy room,	\$6,500 00
Barn and dairy equipment,	1,784 48
Garage, carpenter shop and root cellar,	5,000 00
Fireproof vault,	1,500 00
Improvement of lands, prison labor,	5,000 00
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	\$19,784 48

RUTLAND STATE SANATORIUM.

Hitherto at this institution there has been an equal number of beds for male and female patients, although the waiting list for men has invariably been longer than that for women. This year, to meet this situation, a certain number of beds hitherto reserved for women has been changed over for men, so that at present there are 198 beds for males and 157 for females, a total capacity of 355 as heretofore. This has shortened the male waiting list.

A rule limiting the duration of residence for patients at this sanatorium to two years, and another rule whereby all patients are admitted on one month's trial, has resulted in the transfer to other State sanatoria or to municipal tuberculosis hospitals of many patients who were not in any sense so-called Rutland cases, in the early and favorable stages of the disease, but who were occupying beds and in this way defeating the primary object of this particular sanatorium, namely, the care of incipient and curable cases of pulmonary tuberculosis. As more municipal hospitals are opened it is expected that there will be a more rapid interchange of patients, and that Rutland will become a true sanatorium.

As the result of conferences with the State Board of Agriculture the farm has been greatly improved and its production markedly increased. The use of prison labor is mentioned elsewhere. The average number of patients has been 349.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries, wages and labor,	\$42,275 00
Religious services,	1,400 00
Travel, transportation, office expenses,	3,080 00
Food,	70,200 00
Clothing and materials,	102 00
Furnishings and household supplies,	7,800 00
Medical and general care,	22,150 00
Heat, light and power,	16,035 00
Farm and stable,	17,700 00
Grounds,	1,358 00
Repairs, ordinary,	9,800 00
Repairs and renewals (not recurring annually),	600 00
	<hr/>
	\$192,500 00

For special appropriations: —

New coal trestle, including land,	\$7,500 00
Traction engine and equipment for farm,	2,500 00
Fireproof vault,	2,000 00
Greenhouse,	1,500 00
Improvement of lands, prison labor,	10,000 00
	<hr/>
	\$23,500 00

Respectfully submitted,

ARTHUR K. STONE, M.D.
CHARLES J. DOWNEY, M.D.
GEORGE A. DUNN.
ALBERT C. GETCHELL, M.D.
SYLVIA B. KNOWLTON.
DANIEL L. PRENDERGAST.
SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MacCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
NEWELL B. BURNS, M.D.,	.	.	.	.	<i>Assistant Superintendent</i> <i>and Physician.</i>
HARRY S. NEWHART, M.D.,	.	.	.	.	<i>Physician.</i>
ALBERT E. YOUNG,	.	.	.	.	<i>Bacteriologist.</i>

HANNAH M. CALLAHAN,	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	<i>Supervisor.</i>
EDWARD W. PERRY,	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, 3 Joy Street, Boston.

I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1915.

The records show that during the year 505 patients have been treated and 306 have been admitted, thus showing a decrease of 38 under last year. This decrease is due to longer residence of patients treated. There were 72,391 days of treatment in the year. The lowest daily census was 192, and the highest 202. The daily average number of patients was 198.33, which is 1.95 per cent. more than that of the preceding year.

There have been admitted during the year 3, or .98 per cent., incipient, 70, or 22.87 per cent., moderately advanced, and 229, or 74.83 per cent., advanced cases; 2, or .65 per cent., not tubercular, and 2, or .65 per cent., not determined. There has been a daily average of 82.7 bed cases, approximately 42 per cent. of the daily population.

Of the patients discharged, the average duration of residence in the sanatorium was 190 days, as opposed to 176 days for the preceding year; the longest residence of any person was 1,969 days, and the shortest, 1 day.

Of the 306 cases admitted, 238, or 77.77 per cent., were inside workers, and 218 were admitted from cities and towns having a population of 25,000 or more, as follows: Boston, 126; Brookline, 2; Brockton, 2; Cambridge 7; Chelsea, 12; Everett, 12; Fall River, 1; Fitchburg, 1; Haverhill, 1; Lawrence, 2; Lowell, 17; Lynn, 6; Malden, 14; Newton, 1; Quincy, 1; Salem, 3; Somerville, 8; Springfield, 1; Waltham, 1.

Thirty-nine cases have been supported from private funds, 260 by cities and towns, 124 entirely by the State, and 16 pri-

vate cases have later become either town or State charges. There were remaining, November 30, 5 private cases, 106 city or town, 52 State and 37 unknown cases.

Of the patients discharged during the year, 96 males and 85 females had gained in weight, the total gain being 1,985.75 pounds; the average male gain was 10.36 pounds, and the average female gain was 11.66; 14 patients remained stationary, 45 had lost and 65 had died.

Four patients, or 1.31 per cent., have been discharged "arrested;" 19, or 6.22 per cent., "apparently arrested;" 49, or 16.06 per cent., "quiescent;" 89, or 29.18 per cent., "improved;" 43, or 14.09 per cent., "unimproved." Sixty-five, or 21.31 per cent., have died; 31, or 10.16 per cent., were "not considered" (duration of stay being less than one month); and 5, or 1.63 per cent., were not tuberculous.

The average age was 33.93 years. One hundred and fifty-seven were foreign born, and 90 were American born, but of foreign parentage. Thirty-three patients admitted have been previously treated at this sanatorium.

The total cost for maintenance for the year ending Nov. 30, 1915, was \$90,666.48; deducting \$759.11, collected from miscellaneous sources, leaves a net amount expended for maintenance of \$89,906.62. The average per capita cost per week is \$8.687. There has been collected from private patients \$27,122.55, and from cities and towns, \$22,455.87. Further details will be found in succeeding pages of this report.

We are called on to care for an increasing number of weakened, very sick patients, who are in the last stages of the disease. The term "advanced" may include all physical conditions between an ambulatory, afebrile case, suitable to live on the open pavilions and to take exercise, and a case which is semi-moribund, requiring a maximum of nursing, care and hospital facilities.

Two years ago our sanatorium construction was modified somewhat to fit this situation by closing in and equipping with steam heat two open wings of pavilions. At that time it was hoped that the construction and opening of the municipal hospitals for advanced cases would, within a reasonable length of

time, cause a change in the class of patients sent to the sanatorium. This has not occurred, however, and although numerous municipal hospitals have been opened for the care of the advanced consumptive, the past year's experience shows a still greater need for more infirmary and hospital space.

We have cared for, on open pavilions, from 10 to 12 bed cases daily during some months. This is due to the fact that we have patients who are up and around one week and down the next, and whom we are now obliged to shift back and forth, in shuttle fashion, between hospital and pavilions, sometimes several times a month. We should have facilities to keep such patients in bed until they are able to get up and stay up.

Patients in a moribund state have been brought here only to die in a few hours or within two days. Of our 65 deaths the past year, 9 were cases who died within thirty days of the time they were admitted. Thirty-six of the deaths, or 55.4 per cent., were patients who had resided here less than five months, — patients who came here as a very last resort, having tried elsewhere for months or years some other mode of treatment. Accordingly, it seems necessary to adopt one of three policies: (1) To modify the admission of patients to the institution so that we would receive more favorable cases. (2) To construct a small hospital building, of about 30 beds, provided with a sufficient number of single rooms for the proper care of the far advanced, dying cases. (3) To decrease the capacity of the institution, especially during the winter months, thus giving us a more equal number of pavilion and hospital beds in ratio to the kind of patients we are now receiving. This latter measure, however, is wholly undesirable, as it would markedly impair the efficiency of the sanatorium.

Twelve ex-patients have been employed on our wards during the year. Great care has been taken in selecting these employees; therefore they have stood up well under the work and have rendered very efficient service to the sanatorium. These ex-patient employees are segregated from our regular employees.

On November 19, at a conference at Danvers State Hospital, Dr. Newell B. Burns read a paper entitled, "Some Possibilities in the Treatment of the Tuberculous Insane."

This paper will be published in a collection as a contribution to the "William L. Worcester Series of Danvers State Hospital Papers."

MEDICAL REPORT.

We have had many patients, during the past year, for whom isolation from the open wards was indicated. Hemorrhage cases, moribund patients, and those with terminal delirium and meningitis had to be cared for separately in our two single and two double rooms, the only separate beds available. In trying to accommodate the limited facilities to such circumstances, problems of arrangement have been frequent.

Approximately 60 per cent. of patients treated required symptomatic remedies for their relief and comfort. This treatment did not differ from the routine prescriptions for far advanced consumptives. Forty per cent. were suitable for hygienic-dietetic treatment, which required, especially, discipline and regularity in conforming to the rules of sanatorium treatment.

Five patients were treated with artificial pneumothorax. From this treatment one case of hemorrhage derived much benefit, another patient requested that it be continued to alleviate cough and to prevent recurrence of hemoptysis, and another patient suffered a severe pleural shock following his fourth treatment.

Two cases of empyema have occurred; paracentesis was tried ineffectually.

One case of typhoid fever was diagnosed in a patient soon after her admission. She was transferred to her local general hospital. No other cases of this disease occurred.

Tuberculin was given for diagnostic purposes in 4 cases subcutaneously, and in 20 other cases cutaneously. Therapeutic tuberculin was administered in the form of bacillen emulsion in 8 cases. Three of these cases, who had tuberculous adenitis, improved. In these 3 cases the local glandular disease activity increased and then lapsed into quiescence.

One patient with tuberculosis of the tongue was quite susceptible to small doses of bacillen emulsion, and the treatment was therefore discontinued. The stage of tuberculous pulmonary disease in this case was advanced.

When patients with specific histories were admitted, blood was taken and sent to the State Department of Health laboratory for the Wassermann test.

Diphtheria antitoxin was administered to one employee who was suffering from a diphtheroid condition of the throat.

LABORATORY REPORT.

The laboratory work has been carried on daily by the bacteriologist during the past year. A summary of Mr. Young's work is as follows:—

Examinations of 1,398 specimens of sputum, 510 specimens urine, 3 feces, 44 blood and 22 ascitic and pleuritic fluids; also 21 examinations of material from genitourinary sources, and the preparation of sections from one autopsy. Twenty Widal tests were made.

In 22 per cent. of the patient population of the sanatorium at the close of the present year we have been unable to demonstrate the presence of tubercle bacilli in the sputum.

The bacteriologist examines regularly specimens of milk from the several dairies whence comes the supply for the sanatorium. This examination has included the percentage of fat, specific gravity and the total solids. In this way the quality of the milk, as specified by contract, has been closely followed.

All the culture media for bacteriological work is made in the laboratory by the bacteriologist.

SANATORIUM CLASS.

The system of allowing patients to choose between the sanatorium and hospital classes still proves to be of great assistance. Its moral effect is particularly helpful in the matter of maintaining discipline.

WORK PERFORMED.

Of the work performed by patients during the year, 180 hours were devoted to the painting of screens, 50 hours to mending chairs, 282 hours to the picking and preparation of garden truck, 31,902 hours to housework, office and ward work, work about the grounds, care of animals, mending and sewing.

The following list of articles have been made up: 78 table-

cloths, 482 towels, 172 laundry bags, 2 pairs sash curtains, 6 laboratory aprons, 3 lapotomy sheets, 13 binders, 72 pillow slips, and coverings for 55 pillows.

RELIGIOUS SERVICES.

I regret to report that Rabbi J. D. Jurman, who has presided over the Jewish services for the past few years, was forced to resign in October, owing to ill health. Rabbi Jurman is succeeded by the Rev. Moses I. Robinson.

Catholic, Protestant and Jewish services have been held weekly.

IMPROVEMENTS.

Additions have been made to the concrete walks about the administration building during the year. A cement floor has been laid in the animal room at the laboratory. Extensive repairs have been made to the verandas of the wards and pavilions. Additional cinder walks have been made about the hospital buildings. A large cement cistern has been built at the power house for the collection of waste water from the boilers and heating plant.

A pair of 6-ton Fairbanks wagon scales have been installed near the coal shed. A cement flooring has been laid in the cellar of the farmhouse, and steam heat has been installed in this building; a line has been run from this system to the washstand in the stable. Improvements have been made at the stable, the more important of which are the sheathing of the inner walls and the partitioning off and closing in of the washstand.

A concrete retaining wall 133 feet long has been built, and 6,519 square feet of cement flooring, on which coal is stored, have been laid at the side track.

Work on the new summer camps, for which special appropriation was made by the Legislature of 1915, was completed about the middle of August.

FARM.

Our farming operations for the past year, in spite of the heavy rains during the summer, have been somewhat more encouraging. Although the cultivated area was reduced by

about 3 acres, the crops were heavier and the value greater than those of 1914. The bean, cucumber and melon crops, however, were almost a total failure, due to blight and rust. Owing to the lightness of our soil and the high cost of farm labor I believe it is advisable to curtail, rather than extend, our farming operations in the future.

RENDERING PLANT.

A little over a year ago a small rendering retort was installed in the room adjoining the workshop at the power plant at a cost of about \$400. The income and expense accounts of this department for the year ending Nov. 30, 1915, show a substantial balance in favor of the plant, in accordance with the following statement:—

Income Account.

155 gallons floor polish at \$0.75 a gallon, . .	\$116 25
1,945 pounds ground bone at \$0.01 a pound, . .	19 45
7,831½ pounds grease sold at \$0.055 a pound, . .	430 74
3,540 gallons soft soap at \$0.03 a gallon, . .	106 20
	<hr/>
	\$672 64

Expense Account.

Furnishings and material used for the maintenance of the plant, as per our stock book,	\$37 12
Material for the manufacture of floor polish, . .	63 33
Labor,	273 50
	<hr/>
	373 95
	<hr/>
Profit,	\$298 69

RECOMMENDATIONS.

We are very much in need of an examining, operating and sputum room, and suitable quarters in which to treat sick employees. We have a small room on either hospital ward 7½ by 9 feet which is used for the medicine room, dressing room, operating and examining room, nose and throat treatment room and confessional room. It is impossible to do good work under such conditions. Our method of collecting and handling sputum, owing to lack of proper facilities, is not at all satisfactory.

There is not a vacant room in the institution, and our employees are living from two to four in a room. In case of sickness, especially if it be an infectious or contagious disease, we have no way to care for the patient; therefore I would recommend that the sum of \$4,665 be appropriated for the erection of a suitable medical building to cover these needs.

Our facilities for the storage of supplies are very inadequate. The greater part of the goods is stored in the hayloft and sheds at the farmhouse, a distance of about 1,800 lineal feet. The vegetables are stored in a corner of the barn cellar. It is a very small room, poorly ventilated, and is unsuited to the storage of apples and vegetables. The storeroom at the administration building is already overcrowded, and it is impossible to place all our canned goods under lock and key.

As a matter of economy, as well as efficiency, I would strongly recommend that the sum of \$2,000 be appropriated for the erection of a suitable building for a storeroom and root cellar, this building to be located just beyond the power house within a short distance of the wagon scales. This building will be constructed by the institution at a saving of about \$1,000.

Our present power house, of flimsy wooden construction, located but a few feet from the hospital buildings, is undoubtedly a great fire risk, and in all probability a fire once started in this building would be impossible to control.

Our refrigerating machine has been in constant use both day and night for three years. This machine cools our ice boxes in the administration building, freezes the ice and cools the brine for use in the milk cooler in the pasteurizing room. Should an accident occur to this machine during the hot weather we would find it very costly and difficult to meet the emergency.

During the winter we are obliged to run both boilers. We have no reserve to fall back on in case of accident or trouble.

Our vacuum pump, hot-water heater for boilers, and boiler feed pump were bought second-hand in 1909. These machines are wearing out, and in all probability will have to be replaced within a year.

Therefore I would recommend that the sum of \$26,880 be

appropriated to fireproof the present plant, to make the necessary addition for an extra boiler and refrigerating machine, and for the purchase of a vacuum pump, boiler pump and hot-water heater.

We shall need, for the coming year, the sum of \$91,750 to cover the cost of our maintenance.

ACKNOWLEDGMENTS.

Mrs. Jennie Sanford, our superintendent of nurses, resigned March 27, after over five years of most acceptable service. Miss Hannah M. Callahan, head nurse on the west ward, was promoted to fill the vacancy.

To our chaplains, the Rev. Father Francis Walsh, Rev. Mr. Henry M. Goddard, Rev. J. D. Jurman, and Rev. Moses I. Robinson, I wish to extend our thanks for their unfailing attention to the spiritual needs of our patients, and for conducting weekly religious services. I also wish to thank Rev. Dr. Charles Henry for his services in behalf of the patients of the Episcopal faith.

We are indebted to Mr. Robert Saltonstall of Boston for a gift of a grand piano, which fills a long-felt want for entertainment purposes. We also wish to thank our friends who have come to the sanatorium to entertain the patients.

During the year we have received various contributions of books, magazines, flowers and clothing, for which we are very grateful. To the social service department of the Massachusetts General Hospital we are indebted for miscellaneous gifts of books and periodicals.

I deeply appreciate the services of the officers and employees of the institution throughout the year. To the trustees I wish to extend my thanks for their advice and support during the year.

Respectfully submitted,

CARL C. MACCORISON,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1915: —

CASH ACCOUNT.

Balance Dec. 1, 1915,	\$1,189 83
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Receipts.

Institution Receipts.

Board of inmates: —

Private,	\$27,122 55
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Cities and towns,	22,455	87
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\$49,578 42

Sales: —

Food,	\$4 47
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Clothing and materials,	56 09
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Furnishings,	43 73
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Heat, light and power,	5 00
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Repairs and improvements,	8 29
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Miscellaneous,	145 10
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Farm, stable and grounds: —

Rabbits,	.	.	\$5 85
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Vegetables,	11 77
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Sundries,	478 81
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496 43

759 11

Miscellaneous receipts: —

Interest on bank balances,	\$115 78
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Sundries,	65	81
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181 59

50,519 12

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1914,	\$2,055 92
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Advance money (amount on hand November 30),	6,000 00
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Approved schedules of 1915,	81,716 89
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89,772 81

Special appropriations,	3,306	46
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[illegible]

Payments.

To treasury of Commonwealth, institution receipts,		\$50,519 12
Maintenance appropriations: —		
Balance November schedule, 1914,	\$3,303 50	
Eleven months' schedules, 1915,	81,716 89	
November advances,	4,626 18	
	<hr/>	89,646 57
Special appropriations: —		
Approved schedules,	\$3,306 46	
Less advances, last year's report,	57 75	
	<hr/>	3,248 71
Balance, Nov. 30, 1915: —		
In bank,	\$1,292 45	
In office,	81 37	
	<hr/>	1,373 82
Total,		<hr/> \$144,788 22

MAINTENANCE.

Appropriation,	\$90,890 97
Expenses (as analyzed below),	90,666 48
	<hr/>
Balance reverting to treasury of Commonwealth,	\$224 49

Analysis of Expenses.

Salaries, wages and labor: —		
Carl C. MacCorison, superintendent,	\$2,500 00	
General administration,	17,327 84	
Medical service,	3,042 58	
Ward service (male),	1,707 54	
Ward service (female),	6,188 63	
Repairs and improvements,	1,975 00	
Farm, stable and grounds,	5,117 49	
Labor not on pay roll,	44 33	
	<hr/>	\$37,903 41
Food: —		
Butter,	\$2,431 05	
Butterine,	177 68	
Beans,	321 83	
Bread and crackers,	71 81	
Cereals, rice, meal, etc.,	378 01	
Cheese,	93 97	
Eggs,	1,937 81	
Flour,	1,642 08	
Fish,	974 59	
Fruit (dried and fresh),	1,503 81	
Lard,	89 84	
	<hr/>	
Amounts carried forward,	\$9,622 48	\$37,903 41

<i>Amounts brought forward,</i>	\$9,622 48	\$37,903 41
Food — <i>Con.</i>		
Meats,	8,747 45	
Milk,	7,867 26	
Molasses and syrup,	71 16	
Spices, seasonings, salt, etc.,	243 19	
Sugar,	1,511 10	
Tea, coffee, bromo and cocoa,	503 57	
Vegetables,	1,953 56	
Yeast and baking powder,	141 81	
Sundries,	173 03	
Macaroni and spaghetti,	36 46	
	<hr/>	30,871 07
Clothing and materials: —		
Boots, shoes and rubbers,	\$52 95	
Clothing,	127 55	
Dry goods for clothing and small wares,	8 11	
	<hr/>	188 61
Furnishings: —		
Beds, bedding, table linen, etc.,	\$643 28	
Brushes, brooms,	257 51	
Carpets, rugs, etc.,	102 91	
Crockery, glassware, cutlery, etc.,	282 50	
Furniture and upholstery,	357 25	
Kitchen furnishings,	457 41	
Materials and machinery for manufacturing,	29 11	
Wooden ware, buckets, pails, etc.,	112 71	
Sundries,	25 64	
	<hr/>	2,268 32
Heat, light and power: —		
Coal,	\$3,682 98	
Freight on coal,	757 77	
Teaming coal,	357 62	
Oil,	111 34	
Sundries,	109 73	
	<hr/>	5,019 44
Repairs and improvements: —		
Cement, lime and plaster,	\$307 60	
Doors, sashes, etc.,	65 31	
Electrical work and supplies,	330 34	
Hardware,	341 33	
Lumber,	615 07	
Machines (detached) and coal wagon,	432 25	
Paints, oil, glass, etc.,	308 57	
Plumbing, steam fitting and supplies,	736 84	
Roofing and materials,	27 72	
Stone, gravel and freight on same, used at side track,	230 44	
	<hr/>	
<i>Amounts carried forward,</i>	\$3,395 47	\$76,250 85

<i>Amounts brought forward,</i>	\$3,395 47	\$76,250 85
Repairs and improvements — <i>Con.</i>		
Teaming at side track,	128 09	
Sundries,	97 61	
Standard Fairbanks scales,	170 00	
		3,791 17
Farm, stable and grounds: —		
Blacksmith and supplies,	\$127 23	
Carriages, wagons, etc., and repairs,	397 71	
Fertilizers, vines, seeds, etc.,	811 90	
Hay, grain, etc.,	1,573 03	
Harnesses and repairs,	57 68	
Horses,	100 00	
Other live stock,	140 00	
Rent,	240 00	
Tools, farm machines, etc.,	308 63	
Sundries,	176 95	
Teaming,	110 22	
		4,043 35
Religious services,		1,376 00
Miscellaneous: —		
Books, periodicals, etc.,	\$32 03	
Cuspidor supplies,	604 23	
Entertainments,	179 52	
Freight, expressage and transportation,	950 71	
Funeral expenses,	15 00	
Hose, etc.,	113 06	
Medicines and hospital supplies,	1,284 26	
Medical attendance, nurses, etc. (extra),	75 82	
Postage,	141 00	
Printing and printing supplies,	361 33	
Soap and laundry supplies,	402 74	
Stationery and office supplies,	352 80	
Travel and expenses (officials),	146 76	
Telephone and telegraph,	248 40	
Sundries,	297 45	
		5,205 11
Total expenses for maintenance,		\$90,666 48
SPECIAL APPROPRIATIONS.		
Balance Dec. 1, 1914,		\$1,920 05
Appropriations for fiscal year,		1,400 00
Total,		\$3,320 05
Expended during the year (see statement annexed),	\$3,306 46	
Reverting to treasury of Commonwealth,	13 59	
		3,320 05
Balance Nov. 30, 1915,		—

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,373 82	
November cash vouchers (paid from advance money), account of maintenance,	4,626 18	
Due from treasury of Commonwealth, account of November, 1915, schedule,	2,949 59	
	<hr/>	\$8,949 59

Liabilities.

Schedule of November bills,	\$8,949 59
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PER CAPITA.

During the year the average number of inmates has been 198.33.

Total cost for maintenance, \$90,666.48.

Equal to a weekly per capita cost of \$8.7913.

Receipt from sales, \$759.11.

Equal to a weekly per capita of \$0.0736.

All other institution receipts, \$49,760.01.

Equal to a weekly per capita of \$4.8248.

Special Appropriations.

ОБЪЕКТ.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Addition to administration building,	Acts 1914, chap. 90	\$3,000	\$459 24	\$2,997 67	\$2 33
Building for farm implements, . . .	Acts 1914, chap. 90	800	210 89	798 77	1 23
Coal bin, . . .	Acts 1914, chap. 90	500	2 30	493 58	6 42
Water tank, . . .	Acts 1914, chap. 90	2,584	1,237 50	2,583 86	14
Summer pavilion, . . .	Acts 1915, chap. 111	1,400	1,396 53	1,396 53	3 47
		\$8,284	\$3,306 46	\$8,270 41	\$13 59 ¹

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

CARL C. MACCORISON,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate: —

Land, number of acres, 101.75,	\$4,901 30
Buildings,	94,212 44
Power plant, laundry, machinery, heating, water and sewerage systems, and improvements,	32,784 54
Total,	<hr/> \$131,898 28

Personal estate: —

Food,	\$4,404 15
Clothing,	444 68
Furnishings,	23,323 40
Heat, light and power,	3,398 59
Repairs and improvements,	3,357 03
Farm, stable and grounds,	7,004 99
Miscellaneous,	5,479 17
Total,	<hr/> \$47,412 01

PRODUCTS OF THE FARM AND GARDENS.

Apples, firsts, 1 $\frac{1}{4}$ barrels,	\$3 75
Beans, string, 30 $\frac{3}{4}$ bushels,	38 44
Beans, dry, 2 $\frac{1}{2}$ bushels,	6 77
Beans, shell, 7 bushels,	5 95
Beets, 40 $\frac{1}{2}$ bushels,	22 28
Beets, mangle, 45 bushels,	11 25
Beet greens, 15 $\frac{1}{8}$ bushels,	4 52
Cabbage, 6,559 pounds hundredweight,	37 71
Carrots, 207 $\frac{1}{4}$ bushels,	145 08
Chickens, roast, 812 $\frac{1}{2}$ pounds,	154 38
Clover and rye straw, 4.7 tons,	65 80
Corn, sweet, 212 bushels,	127 20
Cucumbers, table use, 13 $\frac{1}{4}$ boxes,	26 50
Cucumbers, small for pickles, 18 pecks,	6 30
Eggs, 1,733 $\frac{1}{2}$ dozen,	485 38
Fowl, 829 pounds,	124 35
Hay, meadow, 5,625 pounds,	32 34
Lettuce, 30 $\frac{1}{2}$ boxes,	8 49
Manure, hen, 57 barrels,	42 75
Manure, stable, 42 $\frac{1}{2}$ cords,	255 00
Onions, 87 $\frac{1}{2}$ bushels,	52 50
Parsley, 5 $\frac{1}{2}$ bushels,	1 96
Parsnips, 2 $\frac{1}{8}$ bushels,	1 34
Peas, green, 36 $\frac{1}{4}$ bushels,	39 88
Peppers, green, $\frac{9}{32}$ bushels,	14
Pork, 7,854 pounds,	785 40
Potatoes, 424 $\frac{1}{4}$ bushels,	318 19
Pumpkins, 1,020 pounds hundredweight,	7 65
Seed, sunflower, 4 $\frac{1}{2}$ bushels,	23 04
Spinach, 1 bushel,	30
Squash, winter, 9,470 pounds hundredweight,	71 03
Strawberries, 1,847 quarts,	184 70
Tomatoes, green or ripe, 40 bushels,	24 00
Turnips, 34 bushels,	20 40
Watermelons, 76 per 100,	11 40
Wood, 11 cords,	38 50
Logs, hard pine, 798 feet,	20 00
<hr/>	
Total,	\$3,204 67

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1908:—

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	112	87	199
Number received during the year,	167	139	306
Number discharged or died during the year,	166	139	305
Number at end of the fiscal year,	113	87	200
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	112.05	86.28	198.33
Average number of officers and employees during the year, .	43.62	35.54	79.16

EXPENDITURES.

Current expenses:—

1. Salaries and wages,	\$37,903 41	
2. Clothing,	188 61	
3. Subsistence,	35,890 51	
4. Ordinary repairs,	3,791 17	
5. Office, domestic and outdoor expense, .	12,892 78	
		\$90,666 48

Extraordinary expenses:—

1. Addition to administration building, .	\$459 24	
2. Building for farm implements, . .	210 89	
3. Coal bin,	2 30	
4. Water tank,	1,237 50	
5. Summer pavilions,	1,396 53	
		3,306 46

Total,		\$93,972 94
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Summary of Current Expenses.

Total expenditures,	\$93,972 94
Deducting extraordinary expenses,	3,306 46
	<hr/>
	\$90,666 48
Deducting amount of sales,	759 11
	<hr/>
	\$89,907 37

Dividing this amount by the daily average number of patients, 198.33, gives a cost for the year of \$453.32, equivalent to an average weekly net cost of \$8.717.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1914,	112	87	199
Number of patients admitted Dec. 1, 1914, to Nov. 30, 1915, inclusive,	167	139	306
Number discharged Dec. 1, 1914, to Nov. 30, 1915, inclusive,	166	139	305
Number of deaths (included in preceding item),	37	28	65
Number remaining in sanatorium Nov. 30, 1915,	113	87	200
Daily average number of patients,	112.05	86.28	198.33

TABLE 2. — *Civil Conditions of Patients admitted.*

	Males.	Females.	Totals.
Married,	74	69	143
Single,	81	52	133
Widowed,	11	17	28
Divorced,	1	1	2
Totals,	167	139	306

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	8	12	20
20 to 30 years,	44	51	95
30 to 40 years,	48	45	93
40 to 50 years,	47	25	72
Over 50 years,	20	6	26
Totals,	167	139	306

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	63	11	15	52	14	14	115	25	29
Other New England States, . . .	7	15	9	11	13	10	18	28	19
Other States,	6	1	2	9	4	8	15	5	10
Total native,	76	27	26	72	31	32	148	58	58
Other countries: —									
Austria,	2	1	2	2	2	2	4	3	4
Belgium,	—	—	—	—	1	—	—	1	—
Canada,	17	20	18	10	15	17	27	35	35
England,	4	8	8	3	3	3	7	11	11
Finland,	3	3	3	1	1	1	4	4	4
France,	—	—	—	—	—	1	—	—	1
Germany,	3	6	4	1	2	2	4	8	6
Greece,	1	1	1	—	—	—	1	1	1
Holland,	—	—	—	1	1	1	1	1	1
Ireland,	19	50	53	21	47	45	40	97	98
Italy,	5	5	5	4	6	6	9	11	11
Newfoundland,	3	4	4	5	4	5	8	8	9
Norway,	—	—	—	—	1	—	—	1	—
Poland,	—	—	—	1	1	2	1	1	2
Portugal,	—	1	1	1	2	2	1	3	3
Rumania,	2	2	2	—	—	—	2	2	2
Russia,	22	22	22	10	13	12	32	35	34
Scotland,	2	5	5	—	—	—	2	5	5
Sweden,	2	3	3	4	5	5	6	8	8
Turkey,	6	5	5	2	2	2	8	7	7
Total foreign,	91	136	136	66	106	106	157	242	242
Unknown,	—	4	5	1	2	1	1	6	6
Totals,	167	167	167	139	139	139	306	306	306

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Amesbury,	1	Medford,	4
Arlington,	1	Melrose,	3
Athol,	1	Middleborough,	1
Attleboro,	1	Milton,	1
Belmont,	1	Nantasket,	1
Beverly,	4	Newburyport,	1
Boston,	126	Newton,	1
Brockton,	2	North Andover,	1
Brookline,	2	North Attleborough,	2
Cambridge,	7	North Reading,	1
Chelmsford,	1	Norwood,	1
Chelsea,	12	Peabody,	3
Clinton,	1	Provincetown,	1
Concord,	1	Quincy,	1
Danvers,	4	Reading,	3
Dedham,	2	Revere,	6
Everett,	12	Salem,	3
Fall River,	1	Saugus,	1
Fitchburg,	1	Somerville,	8
Framingham,	1	Springfield,	1
Franklin,	1	Stoneham,	2
Georgetown,	1	Topsfield,	1
Gloucester,	7	Wakefield,	3
Haverhill,	1	Waltham,	1
Hudson,	1	Watertown,	1
Ipswich,	1	Winchendon,	3
Lawrence,	2	Winchester,	3
Leominster,	2	Wilmington,	1
Lexington,	1	Winthrop,	1
Lowell,	17	West Acton,	1
Lynn,	6	West Boxford,	1
Malden,	14	Woburn,	4
Manchester,	1	Dover, N. H.,	1
Maynard,	2	Total,	306

TABLE 6. — *Occupation of Cases admitted.*

	Males.	Females.		Males.	Females.
Agent,	1	-	Iron worker,	3	-
Artist,	-	1	Janitor,	1	-
Baker,	1	-	Laborer,	16	-
Barber,	1	-	Laundress,	-	2
Bartender,	1	-	Lithographer,	1	-
Blacksmith,	1	-	Machinist,	6	-
Bookbinder,	1	1	Merchant,	1	-
Bookkeeper,	3	-	Milliner,	-	1
Brakeman,	1	-	Mill operative,	9	3
Brass worker,	1	-	Miscellaneous,	9	3
Brick layer,	1	-	Musician,	1	-
Butcher,	1	-	Painter,	5	-
Cap maker,	1	-	Plasterer,	2	-
Carpenter,	4	-	Peddler,	9	-
Chauffeur,	2	-	Plumber,	2	-
Cigar maker,	1	-	Printer,	3	1
Clerk,	9	6	Rubber worker,	4	1
Compositor,	1	-	Salesman,	5	-
Cooper,	1	-	Saleswoman,	-	5
Currier,	2	-	Sheet metal worker,	1	-
Domestic,	-	17	Shoemaker,	12	2
Draftsman,	1	-	Steam fitter,	2	-
Dressmaker,	-	1	Stenographer,	-	1
Druggist,	1	-	Street railroad employee,	3	-
Electrician,	2	-	Stonecutter,	2	-
Engineer,	1	-	Student,	2	3
Factory worker,	5	10	Tailor,	8	1
Farmer,	3	-	Teamster,	7	-
Furrier,	1	-	Waiter,	2	1
Gardener,	1	-	Watch maker,	1	-
Groom,	1	-	Totals,	167	139
Housewife,	-	79			

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	-	3	3
Moderately advanced,	24	46	70
Advanced,	140	89	229
Not tubercular,	2	-	2
Not determined,	1	1	2
Totals,	167	139	306

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	3	1	4
Apparently arrested,	2	17	19
Quiescent,	20	29	49
Improved,	59	30	89
Unimproved,	28	15	43
Died,	37	28	65
Not considered (duration of stay less than one month), .	13	18	31
Not tubercular,	4	1	5
Totals,	166	139	305

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	-	-	-	5	4	9
1 to 2 months,	-	-	-	1	4	5
2 to 3 months,	-	-	-	4	4	8
3 to 4 months,	-	-	-	4	3	7
4 to 5 months,	-	-	-	3	4	7
5 to 6 months,	-	-	-	1	1	2
6 to 7 months,	1	1	2	1	-	1
7 to 8 months,	-	1	1	2	1	3
8 to 9 months,	1	1	2	4	-	4
9 to 10 months,	2	2	4	4	1	5
10 to 12 months,	3	3	6	3	-	3
12 to 18 months,	7	3	10	-	4	4
18 to 24 months,	4	1	5	4	1	5
Over 2 years,	19	16	35	1	1	2
Totals,	37	28	65	37	28	65

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis,	34	27	61
Nephritis,	1	-	1
Intestinal tuberculosis,	1	1	2
Cerebrospinal meningitis,	1	-	1
Totals,	37	28	65

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D., . . .	<i>Superintendent.</i>
EDSON W. GLIDDEN, M.D., . . .	<i>Assistant Superintendent and Physician.</i>
GEORGE M. SULLIVAN, M.D., . . .	<i>Physician.</i>

MRS. ELVIE F. DUPEE, . . .	<i>Matron.</i>
LESTON P. GIDDINGS, . . .	<i>Steward.</i>
WILLIAM R. RAY, . . .	<i>Chief Engineer.</i>
WILLIAM G. ATKINSON, . . .	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1915.

During the year 1915 this sanatorium has provided 93,813 days of treatment.

The total number of patients treated during the year was 702, an increase of 69 as compared with 1914. Of these, 442 were discharged during the year, 260 remaining at the sanatorium on November 30. By the use of tents, accommodations were provided for 270 cases during the summer months, so that a daily average of 257 was maintained for the year. The total number admitted during the year was 457.

The classification of patients on admission shows 2 incipient cases, or less than 1 per cent.; 198 moderately advanced, or 43 per cent.; 249 advanced, or 55 per cent.; nontuberculous, 1, or less than 1 per cent.; and not examined, 7, or less than 2 per cent. The daily average number of bed cases during the year was 62, or 24 per cent. of the total daily average number of patients.

The average length of stay of 442 patients discharged was 176.9 days, — $12\frac{1}{2}$ days longer than last year. The longest stay was 1,843 days; the shortest, 1 day.

The geographical distribution of patients admitted shows an increasing proportion from Boston, — 251 cases, or 55 per cent., — while the other cities of this district of the State show slight change, the number of cases sent being approximately of the same proportion as in former years: Brockton, 24 cases, or 5 per cent.; Fall River, 22 cases, or nearly 5 per cent.; New Bedford, 14 cases, or 3 per cent.; Quincy, 12 cases, or 3 per cent.; Taunton, 12 cases, or 3 per cent.

Of the 702 cases cared for, only 34, or 6 per cent., were supported by private funds; 354, or 50 per cent., by municipalities; 227, or 32 per cent., by the Commonwealth. The settlements of 79 cases, or 11 per cent., were unknown at the end of the year.

Of the patients discharged during the year, 251 gained in weight an average of 11.44 pounds, the greatest gain for a man being $49\frac{1}{4}$ pounds, and for a woman, 44 pounds. There were 156 patients who lost in weight, of whom 99 died.

The condition of patients on discharge shows a slight improvement over the record of 1914, the arrested and apparently arrested cases representing 5 per cent., the quiescent cases 5 per cent., while the percentage of deaths in 1915 shows an increase of 4 per cent. over 1914. The percentage of cases discharged quiescent, or better, is double that of last year. The condition of 11 patients discharged was not considered, as they did not remain in the institution one month.

MEDICAL REPORT.

The words "medical report" seem almost a misnomer when used by an institution in which less and less medical treatment is used each year, and always as little as possible. The only departure from the generally accepted hygienic treatment has been the use of tuberculin in a few selected cases.

Our chief reliance in the way of treatment is a strict compliance with the prescribed daily program for each patient, which obliges him to account for each hour of the day by some specified voluntary act on his part which he is taught has a bearing on his recovery.

This printed program for each patient has had a beneficial effect upon the mental attitude of the patients toward treatment, and consequently upon the discipline of the institution.

LABORATORY REPORT.

The routine clinical laboratory work has involved 1,713 sputum examinations, of which 70 per cent. were positive and 30 per cent. negative; also 275 urinalyses, of which 4 showed renal complications, sugar being found in 2 cases.

I am pleased to report that the physicians of Middleborough are consulting us frequently, or sending us sputum for examination; 25 specimens have been examined for outside physicians, or for patients themselves, and 28 out-patients have been examined.

SANATORIUM AND HOSPITAL CLASSES.

The division of the patients into the sanatorium and hospital classes acts as a feeble reminder that conscientious attention to treatment brings better results than carelessness, and should be considered a help to good discipline. There has been a noticeable improvement in the general behavior of patients during the year, which I attribute largely to the enforced compliance with a definite individual program of treatment, and also to the splendid co-operation of our chaplains in promoting contentment and good feeling.

WORK PERFORMED.

As in former years, considerable employment has been provided for patients throughout the year in the wards and dining room; and in the summer, the preparation of 151 bushels of string beans, 69 bushels of lima beans, 162 bushels of green peas and 289 bushels of tomatoes, besides peaches, currants, strawberries and raspberries, for cooking or canning, and the harvesting of 1,606 bushels of potatoes, has considerably relieved the monotony of treatment.

RELIGIOUS SERVICES.

As in former years, religious services have been held regularly by Catholics and Protestants, the former on Friday mornings, the latter on Wednesday evenings. The former Jewish chaplain, Rev. Israel Faber, was prevented by ill health from coming to the sanatorium through the early summer, and asked to be relieved. In June his duties were assumed by Rev. M. Silverman of Brockton.

By a change in the Catholic pastorate at Middleborough, Rev. Father Regan was succeeded by Rev. Father Timothy A. Curtin who with his curate, Rev. Father Eli Barnaud, is taking a lively interest in the welfare of the sanatorium.

IMPROVEMENTS.

Permanent improvements were undertaken reluctantly, if at all, in the early part of the year, on account of the cut in our appropriation for maintenance and the large number of patients we were caring for, not knowing how much could be spared for improvements.

Several were undertaken later in the order of their importance.

A one-story building 15 by 30 feet was erected near the power plant, one-half to be used for canning fruits and vegetables, the other half for a rendering plant; a wagon shed has been built, at one end of which is a root cellar 30 by 35 feet, and a paint shop; the main driveway has been steam rolled and surfaced with Tarvia and pea stone; the piggery has been enlarged by a feed room at one end and four pens at the other end; 3,325 square yards of new walks and drives have been thoroughly made, and about 3 acres of land about the buildings have been reclaimed and landscaped. Two-fifths of the total labor spent on farm, stable and grounds has been spent on improving the grounds.

The north shack has been enlarged to contain 8 additional beds and 12 additional lockers.

A beginning has been made in setting all water-closets in patients' toilet rooms on slate slabs, 15 having already been finished.

The exposed steam piping, flues, etc., in the power plant have been insulated with asbestos covering; our poultry plant has been improved by the installation of electric brooders for 1,800 chicks, and 7 summer houses for growing chickens; and a new floor of 2-inch maple has been laid in the stable.

A White auto-truck of 1-ton capacity has been purchased for the double service of ambulance and express duty.

FARM.

The farm has had a fairly successful year considering the widespread damage to farm crops caused by excessive rainfall and high humidity which promote the development of fungous

diseases. We did not escape these entirely, but we did not lose any crop on account of them except cantaloupes.

The poultry department has had a favorable year, also, and shows a small balance of profit. The institution has used 5,236 dozen of eggs, and $4\frac{3}{4}$ tons of poultry, beside selling 680 pullets and cockerels.

RECOMMENDATIONS.

Land and Equipment for Dairy.

I wish again to make an urgent appeal for the establishment of a dairy at the sanatorium. Our present source of milk supply has been inadequate all summer. The bacterial count has varied from 200,000 to 800,000 per cubic centimeter. This shows a lack of system in handling, and occasional carelessness, which would seem to make pasteurization necessary if we are to continue on the present plan. This would involve a considerable expenditure for the installation of pasteurizer, and a continual additional expense of some 10 cents per can. I feel sure that the production of milk at the sanatorium would effect a saving of \$3,000 or \$4,000 per year over the cost of pasteurized milk. The Bunton Farm has been inspected by your Board, by Professor Ford of the Massachusetts Agricultural College and by three legislative committees on charitable institutions, all of whom have approved our request for this purchase.

In addition to the Bunton Farm I request this year the purchase of an adjoining piece of land of 36 acres, all tillable, with a right of way to the main street, opposite our administration building. This land was purchased recently by the present owner for approximately \$2,300. He has set out an orchard, and has cultivated a part of it, and has plans made to build a home upon it next spring if the sanatorium does not buy it. This means that if this land is not purchased this coming year we cannot buy it at all. I urge the purchase of this piece of land, not only for its value in connection with the dairy farm, but because it is the only available location within our reach for sewage disposal. The engineering department of the State Department of Health has looked carefully into this matter, and recommends the purchase for the reason that our

present system of sewage disposal will become exhausted in a few years, and we should have in our possession the only available piece of land in the vicinity for this purpose. The price for this piece of land is \$3,300. A representative of the State Board of Charity has inspected this land, and has urged me to make a request for its purchase this year. The only building on this property is a medium-sized barn for the storage of hay.

Coal Trestle.

I wish, also, to repeat my request of last year for a coal trestle. The need of it has been felt this year, in that we have been unable to purchase a winter's supply of coal for the reason that we had no place to store it. The purchase of our entire year's supply in one purchase would have effected a saving this year approaching the entire cost of the trestle; and to have our coal pile on the proposed site would reduce the cost of hauling by more than half. I make these two requests because I think they are both good business propositions for the Commonwealth, and would effect an appreciable economy in maintenance, and increase the efficiency of the institution.

I should like to bring to your attention, also, the advisability of constructing permanent housing of simple design and construction for 26 patients who have been cared for in tents during the past two years. The tents are wearing out, and a considerable expenditure would be necessary next year to renovate them. Twenty of these patients can be cared for in a small pavilion, which can be erected for \$2,000, and the other 6 have been provided for by a small addition to one of our present shacks. If your Board wishes permanent accommodations for these tent patients, in view of the long waiting list of applicants for admission, the sum mentioned above should be asked for this year for the pavilion.

MEDICAL SERVICE.

The medical staff remains as in 1914, and only a few changes have been made in the ward service.

ACKNOWLEDGMENTS.

The hearty co-operation of medical staff, chaplains, heads of departments and subordinate employees, the kindly thought of many friends who have contributed books, periodicals, clothing and entertainments, and the unfailing moral support of your Board, are gratefully acknowledged as very pleasant features of a harmonious and prosperous year.

Respectfully submitted,

SUMNER COOLIDGE,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1915:—

CASH ACCOUNT.

Balance Dec. 1, 1914, \$2,865 07

*Receipts.**Institution Receipts.*

Board of inmates:—

Private,	\$2,072 53
Cities and towns,	72,944 41
Other reimbursements, charitable (collected by State Treasurer),	281 14

\$75,298 08

Sales:—

Food,	\$537 57
Clothing and materials,	62 80
Furnishings,	18 62
Heat, light and power,	28
Repairs and improvements,	5 60
Miscellaneous,	6 53

Farm, stable and grounds:—

Pigs and hogs,	\$98 00
Vegetables,	30 98
Sundries,	674 80

803 78

1,435 18

Miscellaneous receipts:—

Interest on bank balances,	\$160 15
Sundries,	91 28

251 43

76,984 69

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1914,	\$1,218 82
Advance money (amount on hand November 30),	7,000 00
Approved schedules of 1915,	\$104,485 43
Less returned,	1 05

104,484 38

112,703 20

Special appropriations, 11,056 80

Total, \$203,609 76

Payments.

To treasury of Commonwealth, institution receipts,		\$76,984 69
Maintenance appropriations:—		
Balance November schedule, 1914,	\$4,083 89	
Eleven months' schedules, 1915,	104,484 38	
November advances,	6,343 62	
	<hr/>	114,911 89
Special appropriations:—		
Approved schedules,		11,056 80
Balance, Nov. 30, 1915:—		
In bank,	\$467 61	
In office,	188 77	
	<hr/>	656 38
Total,		<hr/> \$203,609 76

MAINTENANCE.

Appropriation,	\$114,788 81
Expenses (as analyzed below),	114,787 76
	<hr/>
Balance reverting to treasury of Commonwealth,	\$1 05

Analysis of Expenses.

Salaries, wages and labor:—		
Sumner Coolidge, M.D., superintendent,	\$2,500 00	
General administration,	21,655 26	
Medical service,	2,700 00	
Ward service (male),	3,245 99	
Ward service (female),	4,372 08	
Repairs and improvements,	2,650 21	
Farm, stable and grounds,	8,917 42	
	<hr/>	\$46,040 96
Food:—		
Butter,	\$2,228 30	
Butterine,	2 20	
Beans,	132 83	
Bread and crackers,	94 43	
Cereals, rice, meal, etc.,	377 64	
Cheese,	76 84	
Eggs,	1,330 93	
Flour,	1,219 23	
Fish,	1,013 44	
Fruit (dried and fresh),	1,205 92	
Lard,	227 52	
Meats,	11,016 43	
Milk,	11,108 36	
Molasses and syrup,	61 56	
Spices, seasonings, salt, etc.,	243 91	
Sugar,	1,384 86	
Tea, coffee, broma and cocoa,	398 83	
Vegetables,	1,350 02	
	<hr/>	
Amounts carried forward,	\$33,473 25	\$46,040 96

<i>Amounts brought forward,</i>	\$33,473 25	\$46,040 96
Food — <i>Con.</i>		
Yeast,	50 42	
Sundries,	276 85	
	<hr/>	33,800 52
Clothing and materials: —		
Boots, shoes and rubbers,	\$26 32	
Clothing,	58 20	
Dry goods for clothing and small wares,	1 25	
	<hr/>	85 77
Furnishings: —		
Beds, bedding, table linen, etc.,	\$1,699 80	
Brushes, brooms,	168 84	
Carpets, rugs, etc.,	39 38	
Crockery, glassware, cutlery, etc.,	479 00	
Furniture and upholstery,	399 41	
Kitchen furnishings,	711 82	
Materials and machinery for manufacturing,	134 60	
Wooden ware, buckets, pails, etc.,	51 27	
Sundries,	278 47	
	<hr/>	3,962 59
Heat, light and power: —		
Coal,	\$5,658 58	
Electricity,	45 00	
Oil,	167 95	
Sundries,	247 65	
	<hr/>	6,119 18
Repairs and improvements: —		
Brick,	\$44 15	
Cement, lime and plaster,	154 67	
Doors, sashes, etc.,	89 12	
Electrical work and supplies,	689 08	
Hardware,	442 18	
Lumber,	1,960 52	
Machines (detached),	42 75	
Paints, oil, glass, etc.,	461 61	
Plumbing, steam fitting and supplies,	1,504 01	
Roofing and materials,	405 35	
Sundries,	541 63	
	<hr/>	6,335 07
Farm, stable and grounds: —		
Blacksmith and supplies,	\$206 95	
Carriages, wagons, etc., and repairs,	383 49	
Fertilizers, vines, seeds, etc.,	2,807 90	
Hay, grain, etc.,	2,993 55	
Harnesses and repairs,	228 16	
Horses,	507 92	
Other live stock,	623 38	
Rent,	447 13	
Tools, farm machines, etc.,	513 13	
Sundries,	1,515 16	
	<hr/>	10,226 77
Religious services,		1,194 00
		<hr/>
<i>Amount carried forward,</i>		\$97,764 86

<i>Amount brought forward,</i>									\$97,764 86
Miscellaneous:—									
Books, periodicals, etc.,	.	.	.	.	.	.	.	.	\$149 64
Cuspidor supplies,	.	.	.	.	.	.	.	.	488 52
Entertainments,	.	.	.	.	.	.	.	.	139 40
Freight, expressage and transportation,	.	.	.	.	.	.	.	.	1,128 93
Funeral expenses,	.	.	.	.	.	.	.	.	170 90
Refrigeration,	.	.	.	.	.	.	.	.	398 45
Ice,	.	.	.	.	.	.	.	.	15 70
Medicines and hospital supplies,	.	.	.	.	.	.	.	.	2,046 30
Medical attendance, nurses, etc. (extra),	.	.	.	.	.	.	.	.	32 00
Postage,	.	.	.	.	.	.	.	.	210 00
Printing and printing supplies,	.	.	.	.	.	.	.	.	383 97
Soap and laundry supplies,	.	.	.	.	.	.	.	.	494 65
Stationery and office supplies,	.	.	.	.	.	.	.	.	342 62
Travel and expenses (officials),	.	.	.	.	.	.	.	.	528 14
Telephone and telegraph,	.	.	.	.	.	.	.	.	265 00
Tobacco,	.	.	.	.	.	.	.	.	9 87
Sundries,	.	.	.	.	.	.	.	.	218 81
									<hr/> 7,022 90
Total expenses for maintenance,	.	.	.	.	.	.	.	.	\$114,787 76
SPECIAL APPROPRIATIONS.									
Balance Dec. 1, 1914,	.	.	.	.	.	.	.	.	\$1,915 16
Appropriations for fiscal year,	.	.	.	.	.	.	.	.	9,287 50
									<hr/>
Total,	.	.	.	.	.	.	.	.	\$11,202 66
Expended during the year (see statement annexed),									\$11,056 80
Reverting to treasury of Commonwealth,	.	.	.	.	.	.	.	.	90
									<hr/> 11,057 70
Balance Nov. 30, 1915,	.	.	.	.	.	.	.	.	\$144 96

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	.	.	.	.	.	.	.	.	\$656 38
November cash vouchers (paid from advance money), account of maintenance,	.	.	.	.	.	.	.	.	6,343 62
Due from treasury of Commonwealth, account of November, 1915, schedule,	3,303 38
									<hr/> \$10,303 38

Liabilities.

Schedule of November bills,	\$10,303 38
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PER CAPITA.

During the year the average number of inmates has been 257.02.

Total cost for maintenance, \$114,787.76.

Equal to a weekly per capita cost of \$8.5887.

Receipt from sales, \$1,435.18.

Equal to a weekly per capita of \$0.1074.

All other institution receipts, \$75,549.51.

Equal to a weekly per capita of \$5.6527.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Laboratory,	Res. 1913, chap. 133	\$1,000 00	\$266 49	\$855 04	\$144 96
Bakery, porch, etc.,	Res. 1914, chap. 89	3,500 00	1,163 46	3,500 00	—
Screens,	Res. 1914, chap. 89	200 00	27 80	200 00	—
Sewerage system,	Res. 1914, chap. 148	1,000 00	312 10	999 65	35 ¹
Water supply,	— — ²	9,287 50	9,286 95	9,286 95	55 ¹
		\$14,987 50	\$11,056 80	\$14,841 64	\$144 96

¹ Reverting to treasury of the Commonwealth.

² Transferred from extraordinary expenses.

Respectfully submitted,

SUMNER COOLIDGE,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate:—

Land, number of acres, 87,	\$9,965 25
Buildings,	119,029 50
Power plant, laundry, machinery, heating, sewerage system and improvement,	34,917 46
Total,	<hr/> \$163,912 21

Personal estate:—

Food,	\$3,088 02
Clothing,	266 13
Furnishings,	25,899 96
Heat, light and power,	802 11
Repairs and improvements,	3,592 65
Farm, stable and grounds,	13,779 07
Miscellaneous,	4,202 18
Total,	<hr/> \$51,630 12

FARM PRODUCE.

Eggs, 5,236½ dozen, at \$0.28,	\$1,466 22
Asparagus, 17½ bushels, at \$3.05,	59 59
Beans, lima, 69 bushels, at \$1.60,	110 40
Beans, string, 153½ bushels, at \$1.25,	192 05
Beets, 254 bushels, at \$0.55,	139 70
Cabbage, Drumhead, 21,600 pounds, at \$11.50 per ton,	118 80
Cabbage, greens, 9 bushels, at \$0.25,	2 25
Cabbage, Savoy, 165½ barrels, at \$0.60,	99 30
Cauliflower, 5 bushels, at \$0.55,	2 75
Carrots, 166½ bushels, at \$0.70,	116 38
Celery, 155 boxes, at \$0.75,	116 25
Chard, Swiss, 131½ bushels, at \$0.40,	52 70
Corn, sweet, 412 bushels, at \$0.50,	206 00
Corn, yellow, 238½ bushels, at \$0.85,	202 73
Cucumbers, 29½ bushels, at \$2,	58 50
Kohlrabi, 14½ bushels, at \$0.45,	6 53
Lettuce, 286½ boxes, at \$0.28,	76 88
Onions, 153½ bushels, at \$0.60,	92 10
Parsley, 2 bushels, at \$0.35,	70
Parsnips, 69 bushels, at \$0.65,	44 85
Peas, 162½ bushels, at \$1.10,	178 75
Peas, seed, 1 bushel, at \$5.25,	5 25
Peppers, 28½ bushels, at \$0.50,	20 75
Potatoes, 1,608½ bushels, at \$0.75,	1,206 38
Pumpkins, 2,370 pounds, at \$0.75 per hundredweight,	17 78
Radishes, 93 bushels, at \$0.50,	46 50
Rhubarb, 723½ pounds, at \$0.01,	7 24
Spinach, 538 bushels, at \$0.30,	161 40
Squash, summer, 45½ barrels, at \$0.60,	27 25
Squash, winter, 11,700 pounds, at \$0.75 per hundredweight,	87 75
Tomatoes, 290½ bushels, at \$0.60,	175 05
Turnips, 120 bushels, at \$0.60,	72 00
Apples, 3½ barrels, at \$1.50,	5 25
Apples, 1 barrel, at \$3,	3 00
Cantaloupes, 11½ crates, at \$1,	11 25
Cherries, 266 quarts, at \$0.12,	31 92
Currants, 701 quarts, at \$0.05,	35 05
Grapes, 383 pounds, at \$0.04,	15 32
Pears, 1 peck, at \$0.19,	19
Peaches, 78½ bushels, at \$1,	78 25
Plums, 8 bushels, at \$1,	8 00
Quince, 1½ bushels, at \$1.75,	2 63
Raspberries, 983 pints, at \$0.07½,	73 73
Strawberries, 1,334½ boxes, at \$0.10,	133 45

Watermelons, 62, at \$0.15,	\$9 30
Hay, No. 1, 40 tons, at \$23,	920 00
Hay, meadow, 4 tons, at \$11.50,	46 00
Rye, straw, 4 tons, at \$14,	56 00
Rye, 18 bushels, at \$1.25,	22 50
Pigs,	917 30
Poultry,	3,590 36
Manure, pigs, 23 cords, at \$6,	138 00
Manure, horse, 33 $\frac{1}{3}$ cords, at \$6,	200 00
Manure, hens, 181 barrels, at \$0.75,	135 75
Sand dressing, 44 loads, at \$1,	44 00
Manure (outside stock), 5.742 cords,	34 45
Total,	<hr/> \$11,683 48

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	157	88	245
Number received during the year,	282	175	457
Number discharged or died during the year,	264	178	442
Number at end of fiscal year,	175	85	260
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	173	84	257
Average number of officers and employees during the year, .	56	25	81

Expenditures.

Current expenses:—

1. Salaries and wages,	\$46,040 96
2. Clothing,	85 77
3. Subsistence,	33,800 52
4. Ordinary repairs and improvements,	6,335 07
5. Office, domestic and outdoor expenses,	28,525 44
Total,	\$114,787 76

Extraordinary expenses:—

1. New buildings, land, etc.,	\$9,286 95
2. Permanent improvements to existing buildings and grounds,	1,769 85

Total, \$11,056 80

Grand total, \$125,844 56

Summary of Current Expenses.

Total expenditures,	\$125,844 56
Deducting extraordinary expenses,	11,056 80
	<hr/>
	\$114,787 76
Deducting amount of sales,	1,435 18
	<hr/>
	\$113,352 58

Dividing this amount by the daily average number of patients, 257.02, gives a cost for the year of \$441.03, equivalent to an average weekly net cost of \$8.48.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted, Dec. 1, 1914, to Nov. 30, 1915, inclusive.	282	175	457
Number of patients discharged, Dec. 1, 1914, to Nov. 30, 1915, inclusive.	264	178	442
Number of deaths (included in preceding item),	63	36	99
Number remaining in sanatorium Nov. 30, 1915,	175	85	260
Daily average number of patients,	173	84	257
Daily average number of bed patients, Dec. 1, 1914, to Nov. 30, 1915.	35	27	62

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	128	103	231
Single,	140	62	202
Widowed,	10	9	19
Divorced,	4	1	5
Totals,	282	175	457

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	25	19	44
20 to 30 years,	79	67	146
30 to 40 years,	75	59	134
40 to 50 years,	71	21	92
Over 50 years,	32	9	41
Totals,	282	175	457

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States:—									
Massachusetts,	107	25	29	52	12	13	159	37	42
Other New England States,	10	7	9	8	5	4	18	12	13
Other States,	16	11	14	10	6	6	26	17	20
Total native,	133	43	52	70	23	23	203	66	75
Other countries:—									
Albania,	1	1	1	—	—	—	1	1	1
Austria,	3	5	5	6	6	6	9	11	11
Azores,	—	—	—	—	2	2	—	2	2
Belgium,	1	1	1	—	—	—	1	1	1
Brazil,	1	—	—	—	—	—	1	—	—
Canada,	12	24	24	22	23	26	34	52	50
Denmark,	1	2	2	—	1	—	1	3	2
England,	7	14	15	8	8	11	15	22	26
Finland,	1	2	2	3	3	3	4	5	5
France,	—	1	—	1	2	1	1	3	1
Germany,	3	7	6	1	3	2	4	10	8
Greece,	2	2	2	1	1	1	3	3	3
Holland,	2	2	2	—	1	—	2	3	2
Ireland,	33	82	79	27	50	52	60	132	131
Italy,	15	17	17	4	4	4	19	21	21
Newfoundland,	3	3	4	6	5	8	9	8	12
Norway,	1	1	1	2	2	2	3	3	3
Poland,	1	1	1	1	1	—	2	2	1
Portugal,	—	—	—	—	2	2	—	2	2
Prince Edward Island,	2	2	4	3	7	5	5	9	9
Russia,	39	40	38	15	16	17	54	56	55
Scotland,	6	9	5	2	4	4	8	13	9
Spain,	1	1	1	—	—	—	1	1	1
Sweden,	5	8	7	1	3	3	6	11	10
Switzerland,	1	1	1	—	—	—	1	1	1
Syria,	3	3	3	1	1	1	4	4	4
Turkey,	3	3	3	—	—	—	3	3	3
West Indies,	—	1	—	—	1	1	1	1	1
Western Islands,	—	—	—	—	—	—	—	1	—
Total foreign,	147	233	224	105	151	151	252	384	375
Unknown,	2	6	6	—	1	1	2	7	7
Totals,	282	282	282	175	175	175	457	457	457

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Number.	CITIES AND TOWNS.	Number.
Acushnet,	1	Maynard,	1
Arlington,	2	Medway,	2
Attleboro,	10	Middleborough,	3
Barnstable,	1	Milford,	4
Belmont,	2	Natick,	1
Beverly,	1	Needham,	1
Boston,	251	New Bedford,	14
Braintree,	1	Newburyport,	2
Bridgewater,	1	Newton,	7
Brockton,	24	North Attleborough,	2
Brookline,	6	Norton,	1
Cambridge,	3	Norwood,	2
Chelsea,	9	Plainville,	1
Dartmouth,	1	Plymouth,	2
Dennis,	1	Provincetown,	1
Everett,	4	Quincy,	12
Fairhaven,	1	Readville,	1
Fall River,	22	Rutland,	1
Foxborough,	1	Somerville,	4
Franklin,	1	Stoneham,	1
Gloucester,	1	Stoughton,	1
Hampden,	1	Taunton,	12
Hanson,	1	Walpole,	2
Hingham,	1	Waltham,	3
Hopedale,	1	Watertown,	1
Hopkinton,	1	Webster,	1
Hudson,	1	Wellfleet,	1
Lexington,	1	West Bridgewater,	1
Lowell,	3	Weymouth,	4
Lynn,	3	Whitman,	1
Malden,	3	Wilmington,	1
Manchester, N. H.,	1	Woonsocket, R. I.,	1
Marlborough,	1	Worcester,	2
Mattapoisett,	1	Totals,	457

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Asbestos worker, . . .	1	-	1	Freight handler, . . .	3	-	3
Baker,	2	-	2	Freight tender, . . .	1	-	1
Bartender,	1	-	1	Gardener,	1	-	1
Barber,	4	-	4	Gas fitter,	1	-	1
Bell boy,	1	-	1	Hostler,	1	-	1
Boiler maker,	2	-	2	Hotel work,	2	-	2
Bookbinder,	1	-	1	Housekeeper,	-	3	3
Bookkeeper,	3	2	5	Housewife,	-	78	78
Brass finisher,	1	-	1	Insurance agent, . . .	2	-	2
Brewer,	1	-	1	Janitor,	3	-	3
Building cleaner, . . .	1	-	1	Jeweler,	3	-	3
Butcher,	1	-	1	Junk collector,	1	-	1
Candy maker,	3	1	4	Labeler,	-	1	1
Car conductor,	1	-	1	Laborer,	19	-	19
Car inspector,	1	-	1	Laundress,	-	3	3
Carpenter,	4	-	4	Laundryman,	1	-	1
Cashier,	1	2	3	Lineman,	1	-	1
Chauffeur,	6	-	6	Liquor dealer,	1	-	1
Chocolate packer, . . .	-	1	1	Locksmith,	1	-	1
Cigar maker,	4	-	4	Machinist,	12	-	12
Civil engineer,	1	-	1	Manicurist,	-	1	1
Clerk,	20	5	25	Marker,	-	1	1
Cook,	2	2	4	Meat cutter,	1	-	1
Coppersmith,	1	-	1	Merchant,	2	-	2
Domestic,	-	40	40	Motorman,	2	-	2
Dressmaker,	-	2	2	Moving picture operator, .	1	-	1
Electrician,	4	-	4	Musician,	1	-	1
Electrotyper,	1	-	1	None,	-	2	2
Elevator man,	1	-	1	Nurse,	-	2	2
Engineer,	1	-	1	Nurse girl,	-	2	2
Errand boy,	1	-	1	Operative,	37	14	51
Farmer,	3	-	3	Orderly,	1	-	1
Fireman,	4	-	4	Painter,	10	1	11
Fish boner,	-	2	2	Paper box maker, . . .	1	-	1
Fisherman,	4	-	4	Peddler,	6	-	6
Foreman,	1	-	1	Penmaker,	1	-	1

TABLE 6. — *Occupations* — Concluded.

	Males.	Females.	Totals.		Males.	Females.	Totals.
Photographer, . . .	2	-	2	Steel grinder, . . .	1	-	1
Plasterer, . . .	1	-	1	Steward, . . .	1	-	1
Plumber, . . .	3	-	3	Stone cutter, . . .	3	-	3
Porter, . . .	3	-	3	Student, . . .	1	3	4
Printer, . . .	4	-	4	Tailor, . . .	14	-	14
Restaurant manager, .	1	-	1	Tapner, . . .	1	-	1
Roofer, . . .	1	-	1	Teamster, . . .	14	-	14
Salesman, . . .	5	3	8	Telephone operator, .	-	1	1
School teacher, . . .	-	1	1	Tinsmith, . . .	2	-	2
Sculptor, . . .	1	-	1	Tire maker, . . .	1	-	1
Seaman, . . .	1	-	1	Unknown, . . .	2	-	2
Ship fitter, . . .	1	-	1	Waiter, . . .	6	2	8
Shipper, . . .	1	-	1	Weaver, . . .	8	-	8
Silver designer, . . .	1	-	1	Wool sorter, . . .	1	-	1
Solderer, . . .	1	-	1	Totals, . . .	282	175	457
Steam fitter, . . .	2	-	2				

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	2	-	2
Moderately advanced,	128	70	198
Advanced,	145	104	249
Nontuberculous,	1	-	1
Not examined,	6	1	7
Totals,	282	175	457

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Arrested,	2	—	2	5
Apparently arrested,	15	6	21	
Quiescent,	20	3	23	5
Improved,	104	83	187	42
Unimproved,	38	25	63	14
Died,	63	36	99	23
Not considered,	22	25	47	11
Totals,	264	178	442	100

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	7	5	12
1 to 2 months,	—	—	—	9	4	13
2 to 3 months,	—	—	—	4	7	11
3 to 4 months,	—	1	1	5	4	9
4 to 5 months,	—	2	2	4	3	7
5 to 6 months,	—	2	2	1	4	5
6 to 7 months,	1	1	2	6	3	9
7 to 8 months,	1	—	1	9	—	9
8 to 9 months,	1	—	1	3	—	3
9 to 10 months,	4	4	8	1	1	2
10 to 12 months,	4	3	7	2	1	3
12 to 18 months,	14	11	25	7	1	8
18 to 24 months,	11	1	12	4	3	7
Over two years,	27	10	37	1	—	1
Unknown,	—	1	1	—	—	—
Totals,	63	36	99	63	36	99

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis pulmonalis,	62	36	98
Tubercular meningitis,	1	—	1
Totals,	63	36	99

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D.,	.	.	.	<i>Superintendent.</i>
ROY MORGAN, M.D.,	.	.	.	<i>Assistant Superintendent and Physician.</i>
J. J. COSGROVE, M.D.,	.	.	.	<i>Physician.</i>

CARRIE A. BAILEY,	.	.	.	<i>Head Nurse.</i>
ANNIE S. RATHBONE,	.	.	.	<i>Head Nurse.</i>
EMILY B. POLLARD,	.	.	.	<i>Head Nurse.</i>
HERBERT W. SMITH,	.	.	.	<i>Steward.</i>
RALPH L. HIGGINS,	.	.	.	<i>Chief Engineer.</i>
FRANK J. CLEGG,	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the sixth annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1915.

DAYS OF TREATMENT.

The sanatorium has provided 94,465.65 days of treatment this past year, which is an increase of 4,976.4 days over the preceding year.

NUMBER TREATED.

There have been 328 patients admitted. This is 24 more than last year. These admissions plus the number in the institution Dec. 1, 1914, make a total of 582 patients that have been under treatment during the year. The daily average number of patients has increased from 245.45 last year to 258.81 this year.

CLASSIFICATION.

Of the 328 patients admitted, 82, or 25 per cent., were incipient cases; all but 12 of these were children. There were 87, or 26 per cent., who were moderately advanced; of these, 48 were children. There were 158, or approximately 49 per cent., who were patients in an advanced stage; only 21 of these were children. One patient was found to have a nontuberculous pulmonary abscess. There has been a daily average of 23.5 male and 40 female patients who were so ill that they had to be cared for in bed; 12 per cent. of the children under twelve years old, 37 per cent. of the women and 21 per cent. of the men have been bed patients.

LENGTH OF RESIDENCE.

There has been a marked increase each year in the average length of stay of each patient. In 1911, 145 days; in 1912, 185 days; in 1913, 229 days; in 1914, 247 days; and in 1915, 306 days. This is an encouraging record because a year's residence at least is usually required in even the more hopeful cases to obtain an apparent arrest of the disease, while to protect the community the open, progressive cases should have institutional care as long as they live. To persuade them to remain until the end is often very difficult. At such a time home and friends make a strong appeal to the invalid. Good nursing and tactful handling are required to keep them contented, and so prevent them from going home to die.

GEOGRAPHICAL DISTRIBUTION OF PATIENTS.

Table 5 gives this in detail. It is interesting to note that of the 7 largest cities, each of which has a local tuberculosis hospital, only 2, Boston and Holyoke, have admitted a less number of patients to Westfield than during the preceding year. Furthermore, these cities, although they are expected to care for all their advanced cases, sent us such patients as follows: Springfield, 17; Worcester, 13; Fitchburg, 4; Boston, 8; Fall River, 4; New Bedford, 3; Holyoke, 4, — a total of 53 patients that should have been cared for in local hospitals. These patients occupied beds that rightfully belonged to the many hopeful cases on the waiting lists.

SUPPORT OF PATIENTS.

Of the 328 admitted, 27 paid their own board, 196 were supported by cities and towns, 88 were State charges and the status of 17 has not yet been determined. The following figures are worthy of attention, showing as they do that each succeeding year since 1911 the receipts from patients who paid their own board have been lessening, notwithstanding the fact that the average daily number of patients has steadily increased. At the same time, the amount paid by cities and towns for settled cases is larger in the aggregate. It should be

noted that the marked increase in receipts for 1915 under this heading was because of the settlement by the city of Boston of bills that had been accumulating during the preceding five years.

YEAR.	Average Number of Patients.	Paid by Patients.	Paid by Cities and Towns.	Total.
1910, ¹	128.4	\$6,650 61	\$3,860 06	\$10,510 67
1911,	156.8	8,457 70	13,511 92	23,969 62
1912,	176.3	6,209 85	18,520 10	24,729 95
1913,	182.6	4,599 74	19,876 01	24,475 75
1914,	234.5	3,949 39	20,569 84	23,519 23
1915,	258.8	3,551 05	59,242 41	62,793 46

¹ Ten months.

GAIN IN WEIGHT OF DISCHARGED PATIENTS.

The number of patients who gained weight is 215. Each made an average gain of $10\frac{1}{2}$ pounds; 99 failed to gain, or lost weight.

CONDITION ON DISCHARGE.

The number in each class is given in Table 8. The following gives the percentages:—

Apparently arrested, . . . . .	.369	Unimproved, . . . . .	.113
Quiescent, . . . . .	.149	Died, . . . . .	.168
Improved, . . . . .	.111	Not considered, . . . . .	.066

The apparently arrested cases were nearly all admitted in the incipient to moderately advanced stages. This shows the necessity of making an early diagnosis and the early institution of suitable treatment if we expect to obtain favorable results.

SANATORIUM SCHOOL.

The school work has continued under the same conditions as last year. The primary grade teacher, Miss Winslow, used the girls' play room in the children's ward. Mrs. Carlson has taught the grammar grades in the recreation room. They have done the best work possible under many adverse circumstances.

The teachers and pupils are looking forward with eager anticipation to the opening of the new school building in December.

The number of patients of school age has greatly increased and now averages nearly 140. On account of lack of room we have not been able to accommodate all those that should have attended school. This next year, besides the regular grade studies for the children, classes in craft work and domestic science will be formed for the older patients. Excellent facilities for such instruction have been provided in the new building.

The daily average attendance for all school grades has been as follows:—

Grade 1,	20.58
Grade 2,	14.80
Grade 3,	9.87
Grade 4,	13.97
Grade 5,	12.47
Grade 6,	4.77
Grade 7,	9.78
Grade 8,	2.6
A total daily average attendance of	88.66
Per cent. of attendance in primary grades,	90.88
Per cent. of attendance in grammar grades,	94.13

IMPROVEMENTS.

School Building.—The school building for which an appropriation was granted last year has been erected and will be ready for pupils soon after December 1. The building provides on the first floor two classrooms for grade work, a workshop, domestic science room, and a library and reading room for the patients' use.

In the second story there is a four-room apartment for the farm foreman, besides two rooms for teachers. The heating and lighting come from the central power plant. As the children attend but half-day sessions the building supplies accommodations for 170 pupils.

New Boiler.—A new 150 horse power boiler has been installed. With the new school building and greenhouse in use this addition to the power plant was an absolute necessity.

Coal Trestle. — After much delay work was begun on the construction work of the trestle in June, and it was ready for use the 1st of December. We can now store about 1,000 tons of coal at the siding besides 300 tons in the coal pocket at the power house.

RECOMMENDATIONS.

The following special appropriations for improvements are requested: —

Storage and horse barn, stable for young stock, and dairy room,	\$6,500 00
Barn and dairy equipment,	1,784 48
Garage, carpenter shop and root cellar,	5,000 00
Fireproof vault,	1,500 00

Storage and Horse Barn, Stable for Young Stock, and Dairy Room. — The large barn which was on the property when purchased by the Commonwealth was of a tobacco barn type of construction and in very poor repair. The sum of \$1,600 was expended in shingling the sides and fixing one end of one floor so that it could be used for a horse stable and carriage room. On account of the light timbers used in framing the barn the upper floors are of little use for storage purposes. We are obliged to store the baled hay and straw in the basement. For this reason a great deal of waste room is left, which is of little use. The barn will soon need reshingling and other extensive repairs made if we continue to use it. The trustees consider that it is unwise to expend more money for this purpose. Therefore plans have been made for a storage and horse barn, and stable for young stock, to be built in connection with our new dairy barn.

The plan submitted for the dairy room is similar to the one asked for last year. We have at present no suitable place in which to cool milk or care for it in a proper way. The cost of construction is estimated at \$6,500.

Garage, Carpenter Shop and Root Cellar. — The room now used for a carpenter and repair shop is badly needed for an additional storeroom for groceries and household supplies.

We need a garage, as the touring car and automobile truck are now kept in what was intended for a carriage room, close

by the horses. We cannot heat this room except by the use of electric radiators. By this means we can keep the temperature above the freezing point, but cannot make the room warm enough to wash the cars in winter weather. The new building as planned, beside serving as a garage and carpenter shop, will have a roomy loft which will be useful for storage of lumber and other supplies, and the basement under the carpenter shop will make an excellent root cellar. The estimated cost is \$5,000.

Fireproof Vault. — The plan submitted has been approved by the Commissioner of Public Records. The construction of this vault is necessary to enable us to comply with the law, which requires specified records to be left under fireproof conditions. The estimated cost is \$1,500.

Improvement of Lands by Prison Labor. — We could use such labor to good advantage in improving the grounds about our buildings and in reforestation. There are about 40 acres suitable for planting with white pine that could be cleared of brush and prepared for seedlings. Road building and general farm work could be carried on much more extensively if we had prison labor available. We ask for \$5,000 to be expended in this way.

ACKNOWLEDGMENTS.

The weekly services have been continued by the Catholic, Protestant and Jewish clergymen. The patients and employees are very appreciative of the special efforts made in their behalf by these clergymen, who come to them on Sunday, their busiest day, for sanatorium services. They also cheerfully answer calls at any time to visit, and to offer consolation to the sick and dying. I especially appreciate their co-operation and assistance in maintaining discipline.

We have been favored as in other years with gifts of many magazines and some books. At Christmas especially toys, games and useful articles have been generously donated by kind friends in the neighboring cities and towns for distribution to the patients.

This year we had a valuable gift from Mrs. James Crane of Westfield of a very handsome greenhouse. She also contributed many beautiful palms and other valuable plants. We have

needed a greenhouse very much in past years to enable us to start early vegetables and flowers. Mrs. Crane's gift will prove a very valuable asset to the institution.

Another noteworthy gift was an upright piano presented to us for the use of the school by Mr. Andrew Wallace of Forbes & Wallace, Springfield.

There has been one change in our medical staff. Dr. John Pinckney resigned in November to accept the position of assistant superintendent at the Rhode Island State Sanatorium. This vacant position has been filled by the appointment of Dr. J. J. Cosgrove of Hopkinton, Mass.

Whatever measure of success has been attained by the institution during the year has in a large measure been due to the efficient work done by the officers and employees. To them I wish to express my appreciation for their co-operation and loyalty. I am also deeply grateful for the advice and support given me, and for the continued confidence that you, the trustees, have shown in my earnest efforts to carry on the work of the sanatorium.

Respectfully submitted,

HENRY D. CHADWICK,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1915: —

CASH ACCOUNT.

Balance Dec. 1, 1914,	\$734 86
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Receipts.

Institution Receipts.

Board of inmates: —

Private,	\$3,551 05
Cities and towns,	59,242 41

\$62,793 46

Sales: —

Food,	\$698 34
Clothing and materials,	21
Miscellaneous,	39 40

Farm, stable and grounds: —

Cows and calves,	\$130 25
Pigs and hogs,	607 81
Hides,	14 50
Vegetables,	67 65
Use of teams,	1 00
Sundries,	37 30

858 51

1,596 46

Miscellaneous receipts: —

Interest on bank balances,	\$144 86
Sundries,	70 36

215 22

64,605 14

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of 1914,	\$2,791 78
Advance money (amount on hand November 30),	10,000 00
Approved schedules of 1915,	\$112,318 36
Less returned,	13 00

112,305 36

125,097 14

Special appropriations,	16,774 48
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Total,	\$207,211 62
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Payments.

To treasury of Commonwealth, institution receipts,	\$64,605 14
Maintenance appropriations: —	
Balance November schedule, 1914,	\$3,526 64
Eleven months' schedules, 1915,	112,305 36
November advances,	6,161 95
	<hr/>
	121,993 95
Special appropriations: —	
Approved schedules,	16,774 48
Balance, Nov. 30, 1915: —	
In bank,	\$3,342 78
In office,	495 27
	<hr/>
	3,838 05
Total,	<hr/>
	\$207,211 62

MAINTENANCE.

Appropriation,	\$123,290 00
Expenses (as analyzed below),	123,289 51
	<hr/>
Balance reverting to treasury of Commonwealth,	\$0 49

Analysis of Expenses.

Salaries, wages and labor: —	
Henry D. Chadwick, superintendent,	\$2,500 00
General administration,	21,083 21
Medical service,	2,777 71
Ward service (male),	2,365 07
Ward service (female),	8,072 49
Repairs and improvements,	3,774 98
Farm, stable and grounds,	9,870 67
	<hr/>
	\$50,444 13
Food: —	
Butter,	\$2,967 36
Butterine,	117 30
Beans,	147 74
Bread and crackers,	160 39
Cereals, rice, meal, etc.,	406 41
Cheese,	221 09
Eggs,	3,344 57
Flour,	1,473 35
Fish,	1,316 40
Fruit (dried and fresh),	1,671 81
Lard,	474 34
Meats,	15,460 16
Milk,	207 00
Molasses and syrup,	126 49
Spices, seasonings, salt, etc.,	629 92
Sugar,	1,323 88
Tea, coffee, broma and cocoa,	591 55
Vegetables,	1,990 27
Yeast,	77 95
Sundries,	168 79
	<hr/>
	32,876 77
Amount carried forward,	<hr/>
	\$83,320 90

<i>Amount brought forward,</i>		\$83,320 90
Clothing and materials:—		
Boots, shoes and rubbers,	\$243 35	
Clothing,	307 19	
Dry goods for clothing and small wares,	230 93	
Furnishing goods,	23 15	
Hats and caps,	13 00	
Leather and shoe findings,	71 07	
Materials and machinery for manufacturing,	27 84	
		916 53
Furnishings:—		
Beds, bedding, table linen, etc.,	\$1,779 68	
Brushes, brooms,	374 17	
Carpets, rugs, etc.,	285 74	
Crockery, glassware, cutlery, etc.,	362 14	
Furniture and upholstery,	603 48	
Kitchen furnishings,	542 29	
Materials and machinery for manufacturing,	2 95	
Wooden ware, buckets, pails, etc.,	29 07	
Sundries,	92 47	
		4,071 99
Heat, light and power:—		
Coal,	\$2,456 45	
Freight on coal,	4,549 42	
Oil,	412 41	
Sundries,	62 62	
		7,480 90
Repairs and improvements:—		
Cement, lime and plaster,	\$452 11	
Doors, sashes, etc.,	319 28	
Electrical work and supplies,	564 96	
Hardware,	897 64	
Lumber,	896 26	
Machines (detached),	752 64	
Paints, oil, glass, etc.,	1,065 99	
Plumbing, steam fitting and supplies,	1,621 57	
Roofing and materials,	402 68	
Sundries,	1 20	
		6,974 33
Farm, stable and grounds:—		
Automobiles, gasoline, oil and tires,	\$1,565 28	
Blacksmith and supplies,	140 68	
Carriages, wagons, etc., and repairs to automobiles,	614 07	
Fertilizers, vines, seeds, etc.,	197 55	
Hay, grain, etc.,	7,745 97	
Harnesses and repairs,	57 70	
Other live stock,	82 00	
Rent,	18 00	
Tools, farm machines, etc.,	350 01	
Sundries,	95 73	
		10,866 99
Religious services,		1,247 40
<i>Amount carried forward,</i>		\$114,879 04

<i>Amount brought forward,</i>		\$114,879 04
Miscellaneous:—		
Books, periodicals, etc.,	\$93 05	
Cuspidor supplies,	441 37	
Entertainments,	167 38	
Freight, expressage and transportation,	1,840 45	
Funeral expenses,	15 50	
Hose, etc.,	7 35	
Ice,	107 07	
Medicines and hospital supplies,	1,934 24	
Medical attendance, nurses, etc. (extra),	245 65	
Postage,	201 70	
Printing and printing supplies,	337 13	
Return of runaways,	6 67	
Soap and laundry supplies,	1,357 58	
Stationery and office supplies,	334 47	
School books and school supplies,	129 24	
Travel and expenses (officials),	360 02	
Telephone and telegraph,	485 54	
Tobacco,	3 75	
Sundries,	342 31	
		<hr/>
		\$8,410 47
Total expenses for maintenance,		<hr/>
		\$123,289 51

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1914,	\$4,076 68
Appropriations for fiscal year,	15,725 00
	<hr/>
Total,	\$19,801 68
Expended during the year (see statement annexed),	16,774 48
	<hr/>
Balance Nov. 30, 1915,	\$3,027 20

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$3,838 05
November cash vouchers (paid from advance money), account of maintenance,	6,161 95
Due from treasury of Commonwealth, account of November, 1915, schedule,	984 15
	<hr/>
	\$10,984 15

Liabilities.

Schedule of November bills,	\$10,984 15
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PER CAPITA.

During the year the average number of inmates has been 258.81.

Total cost for maintenance, \$123,289.51.

Equal to a weekly per capita cost of \$9.16.

Receipt from sales, \$1,596.46.

Equal to a weekly per capita of \$0.1185+.

All other institution receipts, \$63,008.68.

Equal to a weekly per capita of \$4.6818.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Grading, concrete walks, lighting,	Acts 1914, chap. 131	\$2,500 00	\$69 45	\$2,419 20	\$80 80
Coal trestle,	Acts 1914, chap. 131	3,926 43	3,284 26	3,284 26	642 17
School building,	Acts 1915, chap. 117	13,725 00	12,235 69	12,235 69	1,489 31
Purchase and installation of boilers,	Acts 1915, chap. 110	2,000 00	1,185 08	1,185 08	814 92
		\$22,151 43	\$16,774 48	\$19,124 23	\$3,027 20

Respectfully submitted,

HENRY D. CHADWICK,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,

Auditor.

VALUATION.

REAL ESTATE.

Land: —

Used for tillage, $56\frac{7}{8}$ acres,	\$4,265 63
Used for pasture, 4 acres,	40 00
Used for grounds, 32 acres,	6,613 96
Used for mowing, $6\frac{3}{4}$ acres,	506 25
Used for woodland, 40 acres,	2,000 00
Waste and miscellaneous, $38\frac{3}{8}$ acres,	236 88

Buildings: —

Administration,	40,493 36
Inmates,	55,609 00
Farm, stable and grounds,	11,375 00
Employees,	5,100 00
Heat, light and power,	14,370 00
Miscellaneous purposes,	19,300 00

Miscellaneous: —

Sewerage system,	1,948 80
Equipment for heat, light and power,	16,362 34
Water system,	2,481 34
Heating system,	2,376 15
Hot-water system,	729 55
Telephone system,	75 00

Total valuation of real estate, \$183,883 26

PERSONAL PROPERTY.

East ward,	\$4,471 78
West ward,	4,341 80
Children's ward,	3,986 71
Laboratory,	804 13
Administration building,	1,084 99
Service building,	1,863 44

Amounts carried forward, \$16,552 85 \$183,883 26

<i>Amounts brought forward,</i>	. . . . .	\$16,552 85	\$183,883 26
Annex,	. . . . .	726 35	
Day farmhouse,	. . . . .	256 61	
Superintendent's apartment,	. . . . .	1,027 90	
Staff camp,	. . . . .	52 63	
Office,	. . . . .	1,672 76	
Schoolrooms,	. . . . .	1,000 19	
Kitchen,	. . . . .	3,362 01	
Bakery,	. . . . .	639 01	
Storeroom,	. . . . .	2,745 21	
Power house, second floor,	. . . . .	590 16	
Laundry,	. . . . .	517 85	
Engine room,	. . . . .	742 20	
Paint shop,	. . . . .	215 13	
Farm,	. . . . .	15,435 15	
		<hr/>	\$45,536 01
Total valuation,	. . . . .		<hr/>\$229,419 27

PRODUCE OF FARM.

Apples, 11 barrels, at \$1.50,	\$16 50
Asparagus, 7 boxes, at \$3.50,	24 50
Beans, string, 8½ bushels, at \$1.25,	10 63
Beets, 702¼ bushels, at \$0.55,	386 26
Cabbage, 8½ tons, at \$11.50,	97 75
Carrots, 147 bushels, at \$0.70,	102 90
Celery, 917 boxes, at \$0.75,	687 75
Corn, sweet, 174 bushels, at \$0.60,	104 40
Cucumbers, table use, 127½ boxes, at \$2,	225 00
Cucumber pickles, 56 pecks, at \$0.35,	19 60
Dandelions, 41 bushels, at \$0.35,	14 35
Egg plants, 10 barrels, at \$3.75,	37 50
Lettuce, 667⅕ boxes, at \$0.25,	166 80
Onions, 180½ bushels, at \$0.60,	108 30
Parsley, 18 bushels, at \$0.35,	6 30
Parsnips, 21 bushels, at \$0.65,	13 65
Peas, green, 13 bushels, at \$1.10,	14 30
Potatoes, 186⅞ bushels, at \$0.75,	138 80
Potatoes, small, 17 bushels, at \$0.25,	4 25
Peppers, red, 15 bushels, at \$0.50,	7 50
Peppers, green, 20 bushels, at \$0.50,	20 00
Pumpkins, 7.32 hundredweight, at \$0.75,	5 49
Radishes, 21 bushels, at \$0.50,	10 50
Rhubarb, 3,468 pounds, at \$0.01,	34 68
Scullions, 155½ bushels, at \$0.25,	38 82
Spinach, 56½ bushels, at \$0.30,	16 95
Squash, summer, 11 barrels, at \$0.60,	6 60
Squash, winter, 44.50 hundredweight, at \$0.75,	33 37
Swiss chard, 14 bushels, at \$0.40,	5 60
Tomatoes, 435 bushels, at \$0.60,	261 00
Turnips, 174½ bushels, at \$0.60,	104 55
Ensilage, 183⅓ tons, at \$5,	916 50
Mangel-wurzel, 1,395 bushels, at \$0.25,	348 75
Rape, 13 tons, at \$5,	65 00
Millet, 26½ tons, at \$5,	132 50
Oats and cow peas, 15½ tons, at \$5,	76 00
Rye, straw, 1 ton, at \$14,	14 00
Rye, 6 bushels, at \$1.25,	7 50
Corn, whole, 102 bushels, at \$0.85,	86 70
Manure, 351 cords, at \$6,	2,106 00
Hay, 500 pounds, at \$23 per ton,	5 75
Total,	\$6,482 52
Received from the sale of pigs and hogs,	642 16
Received from the sale of vegetables,	67 65
Received from the sale of hides,	14 50
Received from the sale of calves,	135 25
Pork used by sanatorium, 7,759 pounds, at \$0.10 a pound,	775 90
Milk produced, 169,117 quarts, at \$0.05½ a quart,	9,583 30
Total value of farm products,	\$17,701 28

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number received during the year,	157	171	328
Number passing out of the institution during the year, .	153	161	314
Number at the end of the fiscal year in the institution, .	133	132	265
Daily average attendance (number of inmates actually present) during the year.	129.27	129.54	258.81
Average number of employees and officers during the year, .	69	29	98

Expenditures.

Current expenses:—

1. Salaries and wages,	\$50,444 13
2. Clothing,	916 53
3. Subsistence,	32,876 77
4. Ordinary repairs,	6,974 33
5. Office, domestic and outdoor expenses,	32,077 75

Total,	\$123,289 51
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Extraordinary expenses:—

1. Permanent improvements to existing buildings and new construction,	16,774 48
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Grand total,	\$140,063 99
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Summary of Current Expenses.

Total expenditures,	\$140,063 99
Deducting extraordinary expenses,	16,774 48
	\$123,289 51
Deducting amount of sales,	1,596 46
	\$121,693 05

Dividing this amount by the daily average number of patients, 258.81, gives a cost for the year of \$470.20, equivalent to an average weekly net cost of \$9.04.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1914, to Nov. 30, 1915, inclusive.	157	171	328
Number of patients discharged Dec. 1, 1914, to Nov. 30, 1915, inclusive.	153	161	314
Number of deaths (included in preceding item), . . .	24	29	53
Number in sanatorium Dec. 1, 1914,	-	-	254
Number remaining Nov. 30, 1915,	-	-	268

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	36	35	71
Single,	116	129	245
Widowed,	5	7	12
Totals,	157	171	328

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	48	57	105
14 to 20 years,	35	38	73
21 to 30 years,	28	46	74
31 to 40 years,	31	19	50
41 to 50 years,	12	8	20
51 to 60 years,	3	3	6
Totals,	157	171	328

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States:—									
Massachusetts,	89	23	17	94	21	24	183	44	41
New England States,	8	6	13	15	14	8	23	20	21
Other States,	10	5	9	12	13	14	22	18	23
Total native,	107	34	39	121	48	46	228	82	85
Other countries:—									
Austria,	—	—	—	—	2	4	—	2	4
Belgium,	—	—	—	—	1	1	—	1	1
Canada,	6	18	15	11	21	21	17	39	36
Denmark,	1	1	1	—	—	—	1	1	1
England,	3	5	7	2	8	11	5	13	18
Finland,	2	4	4	3	6	6	5	10	10
France,	—	—	—	—	1	—	—	1	—
Germany,	2	4	3	1	4	4	3	8	7
Greece,	—	—	—	1	1	1	1	1	1
Ireland,	4	33	29	4	23	28	8	56	57
Italy,	4	5	5	5	9	7	9	14	12
Poland,	1	2	1	3	3	3	4	5	4
Portugal,	3	6	6	1	1	1	4	7	7
Russia,	10	14	15	11	10	11	21	24	26
Scotland,	1	2	3	1	3	3	2	5	6
Sweden,	1	2	1	1	3	1	2	5	2
Syria,	2	3	4	1	1	1	3	4	5
Turkey,	2	2	1	—	1	1	2	3	2
West Indies,	1	—	—	—	—	—	1	—	—
Total foreign born,	43	101	95	45	98	104	88	199	199
Unknown,	7	22	23	5	25	21	12	47	44
Totals,	157	157	157	171	171	171	328	328	328

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Acushnet,	2	Hingham,	1
Adams,	1	Holliston,	1
Allston,	3	Holyoke,	5
Ashland,	1	Hopedale,	1
Athol,	1	Hyde Park,	1
Attleboro,	6	Indian Orchard,	1
Auburndale,	1	Jamaica Plain,	1
Baldwinsville,	1	Leominster,	5
Beverly,	3	Lowell,	3
Billerica,	2	Lynn,	4
Boston,	30	Malden,	8
Brimfield,	1	Marlborough,	1
Brockton,	8	Mattapan,	1
Brookfield,	1	Medford,	3
Brookline,	3	Melrose,	1
Cambridge,	3	Millbury,	2
Canton,	1	Milford,	1
Charlestown,	2	Millville,	1
Chelsea,	6	Neponset,	1
Danvers,	1	New Bedford,	6
Dedham,	1	Newburyport,	3
Dorchester,	8	Newton Upper Falls,	1
East Braintree,	1	North Adams,	1
Everett,	1	Northampton,	1
Fairview,	1	Northbridge,	1
Fall River,	15	North Dana,	1
Farnumsville,	1	Northfield,	1
Fisherville,	1	North Oxford,	2
Fitchburg,	7	North Stoughton,	1
Franklin,	1	Otter River,	1
Gardner,	6	Pigeon Cove,	2
Gloucester,	2	Pittsfield,	1
Granby,	1	Plymouth,	1
Great Barrington,	4	Provincetown,	1
Greenfield,	1	Quincy,	1
Haverhill,	1	Revere,	1

TABLE 5. — *Residence of Patients admitted* — Concluded.

PLACE.	Number.	PLACE.	Number.
Roslindale,	3	Templeton,	1
Roxbury,	6	Three Rivers,	2
Rutland,	1	Wakefield,	1
Salem,	2	Waltham,	3
Shrewsbury,	1	Waterville,	1
Somerville,	4	Webster,	3
Southampton,	1	Westfield,	11
Southbridge,	3	Westminster,	1
South Framingham,	1	West Springfield,	1
South Hadley Falls,	1	West Warren,	1
South Lancaster,	1	Whitingsville,	1
Spencer,	1	Winchester,	1
Springfield,	27	Worcester,	27
State minor wards,	23	Total,	328
Stockbridge,	2		

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
At home,	-	5	5	Mail carrier,	1	-	1
Basket maker,	1	-	1	Mason,	1	-	1
Bell boy,	2	-	2	Merchant,	2	-	2
Bookbinder,	-	1	1	Mill hand,	3	14	17
Bookkeeper,	-	1	1	Nurse,	-	3	3
Box maker,	-	1	1	Painter,	1	-	1
Butcher,	1	-	1	Plasterer,	3	-	3
Cabinet maker,	1	-	1	Plumber,	1	-	1
Carpenter,	2	-	2	Presser,	1	-	1
Carriage maker,	1	-	1	Printer,	1	-	1
Chair maker,	3	-	3	Rubber boot maker,	1	-	1
Chauffeur,	1	-	1	Salesman,	3	-	3
Clerk,	7	4	11	Sashmaker,	1	-	1
Compositor,	-	1	1	School,	61	87	148
Dishwasher,	1	-	1	Shoe cutter,	1	-	1
Dressmaker,	-	1	1	Shoemaker,	3	-	3
Errand boy,	2	-	2	Spinner,	1	1	2
Farmer,	5	-	5	Spooler,	-	1	1
Gardener,	2	-	2	Stenographer,	-	4	4
Hostler,	1	-	1	Tailor,	1	1	2
Hotel clerk,	1	-	1	Teacher,	-	2	2
Housewife,	-	46	46	Teamster,	4	-	4
Ice man,	1	-	1	Telephone girl,	-	1	1
Laborer,	11	-	11	Waiter,	3	-	3
Laboratory assistant,	1	-	1	Waitress,	-	4	4
Machinist,	8	-	8	Weaver,	4	1	5

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	39	43	82
Moderately advanced,	38	49	87
Advanced,	79	79	158
Nontuberculous,	1	-	1
Totals,	157	171	328

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	67	49	116
Quiescent,	27	20	47
Improved,	11	24	35
Unimproved,	16	26	42
Died,	24	29	53
Nontuberculous,	1	1	2
Not considered,	7	12	19
Totals,	153	161	314

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			SANATORIUM RESIDENCE.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	—	3	3
1 to 3 months,	—	—	—	2	6	8
3 to 6 months,	—	3	3	4	5	9
6 to 9 months,	2	2	4	4	4	8
9 months to 1 year,	1	—	1	5	2	7
1 to 2 years,	5	8	13	4	7	11
2 to 5 years,	8	12	20	3	2	5
5 to 10 years,	8	2	10	2	—	2
Over 10 years,	—	2	2	—	—	—
Totals,	24	29	53	24	29	53

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.

RESIDENT OFFICERS.

ELLIOTT WASHBURN, M.D.,	.	.	<i>Superintendent.</i>
JAMES A. LYON, M.D.,	.	.	<i>Assistant Superintendent and Physician.</i>
WILLARD B. HOWES, M.D.,	.	.	<i>Physician.</i>
O. C. B. MASON, M.D.,	.	.	<i>Physician.</i>
NISHAN HAMPSON, M.D.,	.	.	<i>Bacteriologist.</i>

CHARLES E. CARROLL,	.	.	<i>Steward.</i>
Miss M. B. FLOYD,	.	.	<i>Superintendent of Nurses.</i>
WALTER C. BROWN,	.	.	<i>Chief Engineer.</i>
CHARLES E. CHAPMAN,	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the report of the Rutland State Sanatorium for the year ending Nov. 30, 1915.

There were under treatment 887 patients. This number includes 349 patients who were in the sanatorium on Dec. 1, 1914, plus 538 who were admitted during the year. The number admitted was 69 more than in 1914, the increase being due to the establishment by the trustees of two important rules, namely, one which limits the residence of patients at Rutland to two years, the other, placing all new patients on a month-trial basis. These rules increased the number of discharges by transfer to other State sanatoria, to municipal tuberculosis hospitals and to the patients' homes and thus increased the number of new patients admitted to fill the vacancies thus created. There were 535 discharges as against 476 in 1914. This increase of 59 was principally due to the aforesaid causes, but to some extent to the opening of the Worcester tuberculosis hospital, to which a number of our patients were transferred.

The total number of days of treatment provided to patients was 127,385.

The daily average of patients was 349, which was 1 less than in 1914. This loss was due to the numerous transfers and discharges made for the reasons just stated, to the fact that at intervals the waiting list for women was exhausted, and to the changes incidental to rearranging our ward service so that more men than women may be cared for instead of an equal number of each sex as heretofore.

Patients admitted from Dec. 1, 1914, to Nov. 30, 1915, were classified on admission as shown on the accompanying table. For purposes of comparison there is also shown the classification of the same patients as stated on their application blanks.

	Classifica- tion on Application Blanks.	Classifica- tion on Admission.
Incipient,	413	207
Moderately advanced,	118	250
Far advanced,	4	66
Nontuberculous,	-	8
Not classified,	3	7
Totals,	538	538

According to our classification on admission, 38.47 per cent. were incipient, 46.46 per cent. were moderately advanced, 12.27 per cent. were far advanced, 1.49 per cent. were non-tuberculous and 1.31 per cent. were unclassified.

At the close of the year we had in the sanatorium 352 patients, of whom 107, or 30.40 per cent., were deemed to be incipient; 184, or 52.27 per cent., were moderately advanced; 54, or 15.34 per cent., were far advanced; and 7, or 1.99 per cent., were unclassified. During the year the daily average number of bed patients was approximately 100, or 28.65 per cent. of the daily total average number of patients.

The average length of stay of discharged patients who stayed in the sanatorium at least one month, or long enough to be "considered" on our records, was ten months and one day, which was eight days less than in the preceding year. Under the two-year rule above referred to a large number of patients who had been here for long periods were discharged. This should result in 1916 in a decreased average length of stay at this sanatorium. In view of the fact that there is a long waiting list of male applicants for admission, and in view of the fact that few patients show further gain after they have been in the sanatorium for one and one-half years, it is recommended that the limit of residence at this sanatorium be reduced to one and one-half years.

The geographical distribution of admitted patients is shown in a special table later in this report. A résumé is of interest as showing especially that of the total number of admissions, — namely, 538, — 229, or 42.56 per cent., were residents of Boston at the time they filed their applications, although of course a large number had no legal settlement in that city. Worcester sent 32, which was less than usual owing to the opening of its own tuberculosis hospital; Brockton sent 21, Somerville 17, Lynn 14, Attleboro 13, Springfield 11, Malden 10, Lowell 9, Brookline, Cambridge and Everett 8 each, Arlington 7, Chelsea, Lawrence, Marlborough and Waltham 6 each. The large city of Fall River sent only 4 cases, while New Bedford sent none. Undoubtedly the large number who came from Boston was due to the work of the tuberculosis clinics maintained by the Boston Consumptives' Hospital and by the Massachusetts General Hospital.

Of the 538 patients who were admitted during the year, 100 paid their own bills during their entire sanatorium residence or up to the end of the time covered by this report; 38 others paid for varying periods and then announced that they were unable to continue, and their bills were thus thrown upon their city or town in 17 of these instances, upon the State in 9 instances, not yet determined as to settlement in 12 instances; 400 patients, or 74.36 per cent. of all patients admitted during the year, contributed nothing toward their own support. These 400 were paid for by the city or town of legal settlement in 194 instances, by the State in 91, not yet determined by State Board of Charity as to whether municipal or State cases in 114 instances. Thus we see that 18.58 per cent. paid their bills, 7.06 per cent. paid a part, and the balance, 74.36 per cent., paid nothing. In this connection it is of interest to note that the amount received from patients themselves in 1906 was \$47,868, while in 1915 it had gradually dropped to \$10,890. On the other hand, the amount paid by cities and towns in 1906 was \$3,818, while in 1915 it was \$93,452. (Of this latter amount, however, \$60,506.08 was recovered in one lump for back bills due from a city, leaving \$32,946 as the real amount for 1915.) The chief factor in the decreased amount received from patients themselves is the fact that in 1907, by a decision of the State Board of Health, which had the force of law,

after August 1 of that year patients receiving aid from their cities and towns on account of tuberculosis were no longer considered as paupers. Prior to the decision of the State Board of Health at that time, which put tuberculosis in the class of diseases deemed to be dangerous to the public health, any person who received aid from his city or town on account of tuberculosis was deemed a pauper; he lost certain civic rights, and often the names of such persons were published in the annual city and town reports. The patients knew these facts, they did not wish to be paupers, and accordingly they tried hard to pay their own bills. With the change came an immediate decrease in the amount paid by patients. Patients were willing and have been increasingly willing ever since to let their cities and towns pay for them, provided that they themselves escaped the stigma of "pauper." Furthermore, the fact that they would not be pauperized has been urged upon tuberculous patients to insure their willingness to go to the State Sanatoria. While this is without doubt to the advantage of the public health, the fact remains that it has markedly decreased the amount paid by patients themselves. Again, since 1910, when a change in the method of admitting patients to Rutland was put into effect, we have had many more unfavorable and far advanced cases who had exhausted their finances before coming to the sanatorium. The jump in the number of deaths from 12 in 1910 to 52 in 1911 shows at a glance the change in the class of patients admitted. The citizenship clause as a requisite for admission kept out many indigent noncitizens; this has now been modified, and we receive as a result many more patients who are noncitizens and who have no legal settlement in any city or town in the Commonwealth. These are the reasons for the constant and steady decrease in amounts received from patients since 1906. To them should be added the lamentable fact that patients already in the sanatorium pass the word around to new comers that their city or town or the State is bound to pay for them, with the result that some who come honestly meaning to pay their own bills pay a few times and then stop payment. Although I have no means at my disposal, either legal or financial, by which to ascertain the financial ability of the patients, there

is no doubt in my own mind that a number are well able, either themselves or through those legally bound to support them, to pay their own bills. The settlements of all who do not pay their own bills are determined by the State Board of Charity. It would appear that it would be a profitable expenditure of money for the State to employ an agent whose entire time would be devoted to looking up the question of the ability of all admitted patients to pay their own bills. Upon the report of such an agent the Attorney-General, when requested by the trustees to collect, would have an adequate basis for suits to recover for board and treatment at the sanatorium. During the past year a number of bills for treatment were, at the request of the trustees, given to the Attorney-General for collection in the name of the Treasurer and Receiver-General, and substantial sums were thus recovered to the use of the sanatorium. Other such bills are still in process of collection.

The average gain in weight of discharged patients was 11.87 pounds; average gain for women, 11.93 pounds, for men, 11.81; the largest gain in a woman was 54½ pounds, in a man, 43.

There were discharged with their disease considered to be arrested, 208 patients; apparently arrested, none; quiescent, none; improved, 177; not improved, 87; progressive, none; dead, 32; nontuberculous, 9; not considered, owing to brevity of sanatorium residence, 22.

OFFICERS.

Dr. Stanhope B. Berkley, third assistant physician, resigned in July and returned to Virginia. He was succeeded by Dr. O. C. B. Nason of Cambridge.

Dr. Nishan Hampson was elected bacteriologist in June.

Miss Sarah C. Crawford resigned as superintendent of nurses in October after three years of satisfactory service, to take up private sanatorium work. She was succeeded by Miss M. B. Floyd, formerly of the New Bedford Tuberculosis Sanatorium at Sassequin.

Frederick H. Drury, head farmer since practically the opening of the sanatorium, resigned in March. Mr. Drury labored hard with discouraging soil and climate for many years. Charles E. Chapman, formerly of Ludlow, succeeded him.

EXPENSE OF OPERATING.

The treasurer's report shows the income and expense accounts for the year. The income was much increased over a normal year by the satisfactory results of suits against a municipality which was heavily in arrears to the sanatorium. From this source alone \$60,500 was recovered. Our expense of operating was less than in 1914, owing to economies in purchasing and a constant and careful supervision of the pay roll. At the close of the fiscal year a small balance reverted to the State Treasurer.

FARM ACTIVITIES.

With the advent of a new farmer in April it was deemed to be an opportune time to conduct an investigation into the whole question of the productive possibilities of our farm. An attempt was made to ascertain whether the farm is yielding all that may reasonably be expected, and to find out by soil analyses and otherwise to the production of what crops the farm is especially adapted, and, on the other hand, to the production of what crops it is especially unsuited. To that end the visiting committee of trustees for this sanatorium appointed a subcommittee who acted with a subcommittee of the State Board of Agriculture and its secretary and with myself. Several conferences of this joint committee were held at Rutland; investigations were made of the farm relative to its topography and the nature and needs of its soils. Numerous samples of the soils were collected and subjected to expert chemical analyses. At the request of the superintendent the State Board of Agriculture laid down a "farm policy" for our farm which was based upon the results of the aforesaid examinations and analyses. Under the supervision of the superintendent the farmer is doing his best to carry out this definite farm policy. Already, in less than one year, the productivity and actual production of the farm have been considerably increased. We are assured that a few years' strict adherence to this policy will without reasonable doubt markedly increase the value of our farm.

PRISON LABOR.

The investigation into the problems of the farm brought to the attention of the trustees the question as to whether or not prison labor might advantageously be used in connection with the improvement of waste land which thereby might be reclaimed, made productive and a source of increased farm products for our table and for the cattle, thus decreasing the amount of money heretofore paid out for such essentials.

As a result of conferences between the trustees, the Prison Commissioners and the Governor and his Executive Council, the latter body set aside from its contingent fund the sum of \$4,000 for the use of the sanatorium in employing prison labor for the improvement of waste land at the Rutland State Sanatorium. The plan proposed and carried out was to bring to Rutland a number of prisoners from Concord Reformatory and lodge them in a camp. The expenses of building the camp were borne by the Concord Reformatory from a sum set aside for that purpose from the contingent fund by the Governor and Council, separate from the sum set aside for our own use. The reformatory provided the camp buildings, the beds, bedding, stoves, cooking and eating utensils and other sundries such as brooms, lanterns, etc. The sanatorium provided light, water, coal, wood, working tools, such as shovels, picks, plows, hoes, etc., and the actual food used but not the cooking of it; all cooking was done at the camp by a prisoner who acted as chef. The sanatorium paid to the Prison Commission 75 cents per prisoner per day excluding Sundays, holidays and half a day on Saturdays. The sanatorium also provided whatever horses and wagons were needed.

The prisoners, at first 25 and later 32, with their guards in charge, commenced actual work early in October and worked until December 7, when cold and snow put a stop to the work for this season at least. The drainage of a piece of swamp meadow, 18.22 acres in area, was commenced. The actual work consisted in cutting maple trees, pulling a large number of stumps and digging a main drain or ditch. When stress of weather drove the men from the swamp meadow they worked upon a piece of rough, unimproved land, 3.37 acres in extent,

right in the center of our farm, which was so very rough that it is likely that it would never have been cleared in any other way than by prison labor, and yet when put in shape it will be an especially valuable bit of farm land on account of its accessibility to the farm buildings. When work stopped for the winter there remained an unexpended balance of approximately \$1,100 with which to resume the work in the spring of 1916. Although at first the prisoners were physically soft, and many of them were unaccustomed to work of this nature, yet in their eight weeks they accomplished about one-seventh of the reclaiming of the swamp land and three-quarters of the work necessary upon the smaller area of rough farm land. At all times the prisoners were under the immediate control of reformatory officers, and so far as the sanatorium and the patients were concerned no trouble or bother resulted, as the camp was located out of sight of the sanatorium, and of course there was no mingling of patients and prisoners. The whole work is more or less of an experiment, which must be continued longer before it will be safe to give an opinion of any value as to its efficiency, economy and expediency. The *necessity* of the work to be done, its *expediency* if not actual necessity, its cost, the return made to the Commonwealth in increased land value and productivity, the value of the work to the prisoners themselves from a sociological viewpoint, — all these as well as other data must be carefully determined. Just now the work has not been established long enough to afford sufficient data. From time to time as the work has progressed detailed reports have been made to your honorable Board and to the State Board of Charity which it is unnecessary to repeat here.

MEDICAL SERVICE.

The medical work has not markedly varied from that of preceding years. No new method of treatment, no new detail of any old method of sufficient interest to rehearse, has been tried during the year.

An account of the throat work appears in the report of Dr. A. C. Getchell, consulting laryngologist, in the annual report of the trustees.

Treatment by the production of artificial pneumothorax in

certain cases has been continued this year. There is absolutely no doubt that this treatment has prolonged the life of some. Whether it has permanently arrested the disease in a few others, sufficient time has not yet elapsed for us to say, nor are we yet in a position to say how long the treatment must be continued. Perhaps after ten years more we may be able to say more definitely. All tuberculosis problems, whether in connection with the policy of the public health or with the medical treatment of those afflicted with the disease, require time, time and again more time, for their even partial solution. This is true of tuberculosis to a much greater degree than of any other communicable disease.

Owing to the very long waiting list for male patients, and the very short waiting list for female patients, at the request of the trustees a rearrangement was made of the accommodations for men and women so that we now care for 198 men and 157 women instead of an even number of each sex as heretofore, the total number of beds remaining the same. It would be advisable to still further reduce the beds for women and increase those for men were it not for the fact that our building arrangements are such that further changes may not be made without bringing about a mingling of ambulatory patients of both sexes, which is not desirable.

The adoption by the trustees of the two-year limit of residence rule and the one-month trial rule will, it is hoped and expected, increase the per cent. of incipient and favorable although moderately advanced cases in the sanatorium, and correspondingly decrease the per cent. of moderately advanced but unfavorable and far advanced cases with bad prognoses. To some extent this change is already noticeable. When the physicians of the State thoroughly understand that Rutland is intended for early and favorable cases only, and that unfavorable and advanced cases will be transferred to another State sanatorium or to a municipal tuberculosis hospital at the end of a suitable period of observation, we shall be able to get back to the original intent of this sanatorium.

A list of medical papers published and of lectures and talks given by members of the medical staff during the year appears in the annual report of your secretary.

REPAIRS AND IMPROVEMENTS.

A fire escape was provided for the upper infirmary, wide enough to permit the removal of a bed patient either on a bed or on a stretcher. A fire escape was provided for the second floor of the nurses' home.

A large amount of painting and general repairing has been done. To keep the sanatorium up to a desirable standard requires constantly two painters and two carpenters, and also, for varying periods, extra men; usually there is at least one month's work on repairs of plaster and stucco work. The very large amount of steam, heat, plumbing, water and sewerage pipes, as well as our large number of electric lights, necessitates constant repairs and replacements.

NEEDS.

We need a new coal trestle to replace the present trestle which is of insufficient size, has a dirt bottom, is nearly worn out, and is reached from the sanatorium over what is admittedly at certain seasons of the year one of the worst roads in the State. We are informed on competent authority that the life of this trestle is not over four years; we expend upon it about \$250 per year in repairs. There is now available a site for a coal trestle which is two miles distant from the sanatorium, but is reached by the new Worcester pike, a fine State road without objectionable grades, and hauling over which is easily possible on any week in the year. At this site there is room for a coal trestle of ample size; the construction should be with cement piers and cement bottom. The estimated cost for this trestle in this proposed location would be \$7,200; to this should be added \$300 for a small piece of land and for the right of way over a short private road about 400 feet in length; total estimate, \$7,500. We now pay about \$2,100 annually to have our coal hauled from the present trestle. Our bunkers are small, the trestle is small, the road is bad, — all factors which act to decrease efficiency.

The State Board of Agriculture recommended to me the purchase of a farm tractor as a material aid in farm cultivation, and as peculiarly fitted to do the work of our stony,

hillside farming land. The use of such an engine would do away with men and horses now employed. With it we could cut our own silage instead of hiring it done; could cut our own wood instead of hiring a man and power saw as now; could put in our ice by power instead of by horses; and finally, could haul our own coal and heavy freight. As stated, we pay out \$2,100 per annum for hauling our coal. When the tractor was not at work on the farm it could be employed in hauling coal. The estimated cost of such tractor and necessary tools is \$2,500.

The other State sanatoria have greenhouses. Rutland, the largest sanatorium in New England, needing one as much as if not more than the others has never had a greenhouse. We need one as a place in which to start our early plantings and to insure lettuce and other green stuff for our patients. One of the greatest faults of our winter and early spring dietary is the lack of such materials. The cost of a greenhouse 100 feet long by 30 feet wide, in three sections, if we do the work ourselves, would be \$1,500.

The Commissioner of Public Records requests us to comply with the law requiring that public records, including those of State institutions, shall be kept in a fireproof vault approved by said commissioner. In order to comply with his request and the law I have caused to be made plans for such a vault and have secured an estimate of such cost. It is proposed to place the vault on the present unused west veranda of the administration building; the estimated cost is \$2,000.

For the purpose of continuing the prison labor in improving waste lands the sum of \$10,000 is requested.

These several needs of the sanatorium have been explained in complete detail to your honorable Board, and special appropriations for the several purposes will, with your approval, be asked of the Legislature of 1916.

CONCLUSION.

I especially desire to express my thanks to Rev. Father O'Connor, Rev. John Copplestone and Dr. Joseph Suffrin, the regular chaplains of the sanatorium, who by their faithful ministrations have so greatly comforted my people.

To various kind friends and organizations who have given books, flowers, entertainments and of their valuable time I proffer my appreciation. The relations between officers and employees have continued harmonious. To you, the trustees, I express my thanks for your constant and ever ready support in all things for the best interests of the sanatorium, without which my efforts would have been wholly useless.

Very respectfully submitted,

ELLIOTT WASHBURN,

Superintendent.

RUTLAND, Dec. 1, 1915.

[illegible]

Payments.

To treasury of Commonwealth, institution receipts,		\$107,577 92	
Maintenance appropriations: —			
Balance November schedule, 1914,	\$16,332 72		
Eleven months' schedules, 1915,	174,863 38		
November advances,	7,448 36		
			<u>198,644 46</u>
Special appropriations: —			
Approved schedules,	\$1,174 19		
Less advances, last year's report,	27 42		
		\$1,146 77	
November advances,		15 70	
			<u>1,162 47</u>
Balance, Nov. 30, 1915: —			
In bank,	\$6,780 79		
In office,	755 15		
			<u>7,535 94</u>
Total,			<u>\$314,920 79</u>

MAINTENANCE.

Appropriation,	\$193,000 00
Expenses (as analyzed below),	192,930 84
	<u> </u>
Balance reverting to treasury of Commonwealth,	\$69 16

Analysis of Expenses.

Salaries, wages and labor: —		
Elliott Washburn, superintendent,	\$2,500 00	
General administration,	42,545 29	
Medical service,	4,553 19	
Ward service (male),	1,777 12	
Ward service (female),	7,924 26	
Repairs and improvements,	3,511 88	
Farm, stable and grounds,	8,134 26	
		<u>\$70,946 00</u>
Food: —		
Butter,	\$7,410 40	
Butterine,	238 47	
Beans,	237 38	
Bread and crackers,	169 06	
Cereals, rice, meal, etc.,	665 57	
Cheese,	155 88	
Eggs,	8,276 29	
Flour,	2,541 72	
Fish,	2,076 43	
Fruit (dried and fresh),	3,171 87	
Meats,	27,322 68	
		<u> </u>
Amounts carried forward,	\$52,265 75	\$70,946 00

<i>Amounts brought forward,</i>	\$52,265 75	\$70,946 00
Food — <i>Con.</i>		
Milk,	9,252 30	
Molasses and syrup,	49 52	
Spices, seasonings, salt, etc.,	497 56	
Sugar,	2,449 35	
Tea, coffee, broma and cocoa,	1,278 80	
Vegetables,	3,476 12	
Yeast,	153 43	
Sundries,	208 46	
	<hr/>	69,631 29
Clothing and materials: —		
Clothing,		42 50
Furnishings: —		
Beds, bedding, table linen, etc.,	\$3,388 58	
Brushes, brooms,	339 72	
Carpets, rugs, etc.,	343 35	
Crockery, glassware, cutlery, etc.,	579 71	
Furniture and upholstery,	596 42	
Kitchen furnishings,	1,360 40	
Wooden ware, buckets, pails, etc.,	130 10	
Sundries,	3 91	
	<hr/>	6,742 19
Heat, light and power: —		
Coal,	\$14,328 25	
Teaming coal,	2,249 91	
Wood,	30 10	
Tools,	10 00	
Oil,	216 85	
Sundries,	105 41	
	<hr/>	16,940 52
Repairs and improvements: —		
Coal trestle,	\$184 10	
Cement, lime and plaster,	156 41	
Doors, sashes, etc.,	90 03	
Electrical work and supplies,	489 39	
Hardware,	552 08	
Lumber,	610 42	
Machines (detached),	72 70	
Paints, oil, glass, etc.,	666 03	
Plumbing, steam fitting and supplies,	858 14	
Roofing and materials,	317 60	
Sundries,	26 00	
	<hr/>	4,022 90
Farm, stable and grounds: —		
Labor, not on pay roll,	\$87 38	
Auto supplies,	20 30	
Blacksmith and supplies,	269 50	
	<hr/>	
<i>Amounts carried forward,</i>	\$377 18	\$168,325 40

<i>Amounts brought forward,</i>	\$377 18	\$168,325 40
Farm, stable and grounds — <i>Con.</i>		
Carriages, wagons, etc., and repairs,	142 15	
Fertilizers, vines, seeds, etc.,	924 17	
Hay, grain, etc.,	6,614 56	
Harnesses and repairs,	51 15	
Veterinary,	35 00	
Cows,	2 75	
Other live stock,	1,082 10	
Surveying,	135 00	
Automobile,	1,300 00	
Tools, farm machines, etc.,	681 86	
Sundries,	117 85	
		11,463 77
Religious services,		1,358 27
Miscellaneous: —		
Books, periodicals, etc.,	\$124 05	
Cuspidor supplies,	700 81	
Entertainments,	147 20	
Freight, expressage and transportation,	999 64	
Funeral expenses,	20 00	
Medicines and hospital supplies,	2,667 70	
Medical attendance, nurses, etc. (extra),	3 00	
Manual training supplies,	53 10	
Postage,	546 71	
Printing and printing supplies,	272 17	
Soap and laundry supplies,	1,148 68	
Stationery and office supplies,	1,004 29	
Travel and expenses (officials),	543 03	
Telephone and telegraph,	850 56	
Tobacco,	7 15	
Water,	2,255 99	
Sundries,	439 32	
		11,783 40
Total expenses for maintenance,		\$192,930 84

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1914,	\$538 90
Appropriations for fiscal year,	5,000 00
Total,	\$5,538 90
Expended during the year (see statement annexed),	\$3,685 56
Reverting to treasury of Commonwealth,	20 56
	3,706 12
Balance Nov. 30, 1915,	\$1,832 78

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$7,535 94	
November cash vouchers (paid from advance money): —		
Account of maintenance,	\$7,448 36	
Account of special appropriations,	15 70	
	<hr/>	7,464 06
Due from treasury of Commonwealth, account of November, 1915, schedule,	3,067 46	
	<hr/>	\$18,067 46

Liabilities.

Schedule of November bills,	\$18,067 46
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PER CAPITA.

During the year the average number of inmates has been 349.

Total cost for maintenance, \$192,930.84.

Equal to a weekly per capita cost of \$10.63.

Receipt from sales, \$2,613.33.

Equal to a weekly per capita of \$0.144.

All other institution receipts, \$104,964.59.

Equal to a weekly per capita of \$5.783.

Special Appropriations.

Object.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Repairs, 1913,	Acts 1913, chap. 119	\$5,222 01	\$301 41	\$5,218 59	\$3 42 ¹
New poultry houses,	Acts 1914, chap. 85	1,000 00	145 53	997 76	2 24 ¹
Watchman's clock,	Acts 1914, chap. 85	150 00	71 40	135 10	14 90 ¹
Improvement of land, prison labor account,	- - - ²	{ 4,000 00	2,200 57 ³	2,200 57	1,799 43
		{ 1,000 00	966 65 ⁴	966 65	33 35
		\$11,372 01	\$3,685 56	\$9,518 67	\$1,832 78

¹ Reverting to treasury of the Commonwealth.² Transferred from extraordinary expenses.³ \$1,544.72 of this amount was paid by State Treasurer.⁴ \$966.65 paid direct by State Treasurer.

Respectfully submitted,

ELLIOTT WASHBURN,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,

Auditor.

VALUATION.

Land: ¹ —	
Garden, 5.51 acres,	\$1,377 50
Field crops, 44.75 acres,	4,475 00
Orchard and fruit, 6.75 acres,	1,350 00
Meadow, 89.68 acres,	7,896 00
Pasture, 10.67 acres,	266 75
Lawns and buildings, 31.21 acres,	11,866 30
Permanent woodland, 69 acres,	2,553 00
Rough pasture, 90.47 acres,	1,609 05
Other lands (roads and sewer beds), 15.98 acres,	6,149 50
Sewerage system,	15,508 32
Total, 364.227 acres,	<u>\$53,072 02</u>
Buildings: —	
Institution buildings,	\$443,300 00
Farm, stable and grounds,	26,200 00
Miscellaneous,	2,425 00
Total,	<u>471,925 00</u>
Grand total,	<u>\$524,997 02</u>
Present value of all personal property as per inventory of	
Dec. 1, 1915,	\$49,318 98

¹ Classification of State Auditor.

FARM ACCOUNT.

The yearly farm account under the system recommended by the State Auditor is an exhaustive and bulky detail, too large for reproduction in this report. A copy is filed with the trustees and one with the State Auditor. The more interesting part in connection with the farm produce is here given. The prices are those fixed by the State Auditor for comparative purposes. The extraordinarily large amount of rain diminished some of our crops, notably, beans and potatoes. Owing to changes in the hennery the number of eggs was reduced. The hennery is now in good shape, and we expect a marked increase in hennery products in 1916.

Farm Produce.

Apples, 61 $\frac{3}{10}$ barrels, at \$1.50,	\$91 95
Apples, 1 barrel, at \$3,	3 00
Beets, 242 bunches, at \$0.04,	9 68
Beets, 97 bushels, at \$0.55,	53 35
Beet greens, 64 $\frac{1}{2}$ bushels, at \$0.30,	19 35
Beans, shell, 15 $\frac{1}{2}$ bushels, at \$0.85,	13 18
Beans, string, 25 $\frac{3}{4}$ bushels, at \$1.25,	32 19
Carrots, 108 bushels, at \$0.70,	75 60
Chard, swiss, 21 bushels, at \$0.40,	8 40
Cabbage, 5 $\frac{17}{100}$ tons, at \$11.50,	67 70
Corn, sweet, 169 $\frac{1}{4}$ bushels, at \$0.60,	101 88
Cucumbers, 28 $\frac{13}{100}$ boxes, at \$2,	56 87
Ensilage, 101 $\frac{13}{100}$ tons, at \$5,	508 83
Fodder: —	
Barley, 31 $\frac{7}{100}$ tons, at \$5,	156 93
Buckwheat, 9 $\frac{85}{100}$ tons, at \$5,	47 41
Hay, 361 $\frac{33}{100}$ tons, at \$5,	184 14
Hungarian, 8 $\frac{55}{100}$ tons, at \$5,	41 89
Millet, 27 $\frac{60}{100}$ tons, at \$5,	136 90
Miscellaneous, 7 $\frac{14}{100}$ tons, at \$5,	39 61
Oat, 40 $\frac{100}{100}$ tons, at \$5,	203 50
Fowl, dressed, 2,578 pounds, at \$0.15,	386 70
Eggs, 3,023 $\frac{1}{2}$ dozen, at \$0.29,	902 51
Hay, No. 1, 117 $\frac{78}{100}$ tons, at \$23,	2,699 49
Hay, meadow, 4 $\frac{10}{100}$ tons, at \$11.50,	48 36
Hay, oat, 6 $\frac{80}{100}$ tons, at \$10,	64 85
Mangels, 93 $\frac{3}{4}$ bushels, at \$0.25,	23 40

Lettuce, 248 $\frac{3}{8}$ boxes, at \$0.28,	\$69 55
Manure, 222 $\frac{1}{2}$ cords, at \$6,	1,337 25
Manure, hen, 83 barrels, at \$0.75,	62 25
Milk, 134,078 quarts, at \$0.05 $\frac{3}{4}$,	902 51
Parsley, 2 bushels, at \$0.35,	70
Parsnips, 6 bushels, at \$0.65,	3 90
Pears, 4 $\frac{1}{4}$ barrels, at \$0.75,	3 19
Peas, 31 $\frac{1}{2}$ bushels, at \$1.10,	34 93
Peppers, green, 3 $\frac{1}{2}$ bushels, at \$0.50,	1 75
Potatoes, 478 $\frac{3}{4}$ bushels, at \$0.75,	359 06
Radishes, 20 $\frac{1}{10}$ bushels, at \$0.50,	10 28
Rhubarb, 1,470 pounds, at \$0.01,	14 70
Squash, summer, 23 $\frac{7}{10}$ barrels, at \$0.60,	14 26
Squash, winter, 7,080 pounds, at \$0.75 per hundredweight,	53 10
Tomatoes, green, 67 bushels, at \$0.60,	40 20
Tomatoes, ripe, 73 $\frac{1}{2}$ bushels, at \$0.60,	44 30
<hr/>	
Total,	\$16,628 99
Ice, 1,100 tons, at \$3,	3,300 00
<hr/>	
	\$19,928 99
<hr/>	
Received from sale of calves, cows,	\$427 50
Received from sale of pork,	616 21
<hr/>	
Total,	\$1,043 71

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference on Charities and Correction, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients at beginning of fiscal year,	180	169	349
Number received during the year,	286	252	538
Number of discharges during the year,	269	266	535
Number of deaths included in preceding item,	16	16	32
Number present at end of fiscal year,	197	155	352
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year,	187	162	349
Average number of officers and employees during the year, .	130.9	77.6	208.5

Expenditures.

Current expenditures:—

1. Salaries and wages,	\$70,946 00	
2. Clothing,	42 50	
3. Subsistence,	69,631 29	
4. Ordinary repairs,	4,022 90	
5. Office, domestic and outdoor expenses,	48,288 15	
Total,		\$192,930 84

Extraordinary expenses:—

1. Permanent improvements to existing buildings,	518 34
--	--------

Grand total, \$193,449 18

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1914, . . .	180	169	349
Number admitted Nov. 30, 1914, to Dec. 1, 1915, . . .	286	252	538
Number discharged Nov. 30, 1914, to Dec. 1, 1915, . . .	269	266	535
Number remaining in sanatorium Nov. 30, 1915, . . .	197	155	352
Daily average number of patients,	187	162	349
Died (included in number discharged),	16	16	32

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	158	147	305
Married,	124	91	215
Widowed,	4	12	16
Divorced,	—	2	2
Totals,	286	252	538

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	30	37	67
20 to 30 years,	135	144	279
30 to 40 years,	79	44	123
40 to 50 years,	34	22	56
Over 50 years,	8	5	13
Totals,	286	252	538

TABLE 4. — *Nativity of Patients admitted.*

PATIENTS BORN IN —	Males.	Females.	Totals.	FATHERS BORN IN —	Males.	Females.	Totals.
United States, . . .	152	154	306	United States, . . .	71	76	147
Ireland,	26	21	47	Ireland,	68	63	131
Russia,	33	19	52	Russia,	39	21	60
Canada,	23	30	53	Canada,	38	43	81
Italy,	8	5	13	Italy,	10	5	15
England,	6	4	10	England,	15	9	24
Germany,	5	2	7	Germany,	6	4	10
Sweden,	4	2	6	Sweden,	6	4	10
Austria,	5	1	6	Austria,	6	1	7
Greece,	3	1	4	Greece,	3	1	4
Finland,	5	3	8	Finland,	6	3	9
Norway,	2	-	2	Norway,	2	1	3
Syria,	2	1	3	Syria,	2	1	3
Armenia,	2	-	2	Armenia,	2	1	3
West Indies,	1	-	1	West Indies,	2	-	2
Portugal,	1	-	1	Portugal,	2	-	2
Hungary,	1	-	1	Hungary,	1	-	1
Switzerland,	1	-	1	Switzerland,	1	-	1
Belgium,	1	-	1	Belgium,	1	-	1
Holland,	1	-	1	Holland,	1	1	2
Newfoundland, . . .	-	4	4	Newfoundland, . . .	-	6	6
Rumania,	1	2	3	Rumania,	1	1	2
Poland,	1	1	2	Poland,	1	1	2
Sectland,	1	1	2	Scotland,	1	5	6
Turkey,	1	-	1	Turkey,	1	-	1
Saint Pierre,	-	1	1	Saint Pierre,	-	1	1
France,	-	-	-	France,	-	2	2
Unknown,	-	-	-	Unknown,	-	2	2
Totals,	286	252	538	Totals,	286	252	538

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Abington,	1	-	1	Leominster,	-	1	1
Adams,	1	-	1	Lowell,	7	2	9
Amesbury,	-	1	1	Lunenburg,	-	1	1
Arlington,	4	3	7	Lynn,	6	8	14
Athol,	2	-	2	Malden,	3	7	10
Attleboro,	5	8	13	Manchester,	-	1	1
Barnstable,	2	-	2	Mansfield,	-	1	1
Beverly,	3	-	3	Marlborough,	2	4	6
Boston,	133	96	229	Maynard,	1	-	1
Braintree,	2	-	2	Medford,	2	1	3
Brockton,	13	8	21	Medway,	1	-	1
Brockline,	5	3	8	Melrose,	-	2	2
Cambridge,	2	6	8	Methuen,	1	-	1
Canton,	1	-	1	Middleborough,	1	-	1
Chelsea,	4	2	6	Milford,	-	2	2
Danvers,	-	1	1	Milton,	-	1	1
Everett,	3	5	8	Needham,	3	-	3
Fall River,	4	-	4	Newton,	2	4	6
Fitchburg,	2	1	3	Northbridge,	1	2	3
Framingham,	1	2	3	Norwood,	1	-	1
Franklin,	2	-	2	Peabody,	2	-	2
Gloucester,	2	-	2	Pittsfield,	1	-	1
Grafton,	-	1	1	Plymouth,	-	1	1
Hardwick,	-	1	1	Provincetown,	1	-	1
Haverhill,	-	5	5	Quincy,	2	5	7
Hingham,	1	1	2	Reading,	2	1	3
Hinsdale,	-	1	1	Revere,	2	-	2
Holden,	1	1	2	Rockland,	1	-	1
Holyoke,	1	3	4	Rockport,	1	-	1
Hopkinton,	1	-	1	Rutland,	4	1	5
Hubbardston,	1	1	2	Salem,	-	1	1
Hudson,	-	2	2	Sharon,	1	-	1
Ipswich,	1	-	1	Shrewsbury,	-	1	1
Kingston,	-	1	1	Somerset,	-	1	1
Lawrence,	4	2	6	Somerville,	6	11	17
Lee,	-	1	1	Springfield,	3	9	12

TABLE 5. — *Residence of Patients admitted* — Concluded.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Swampscott,	-	1	1	Westwood,	1	-	1
Taunton,	2	1	3	West Springfield, . . .	1	-	1
Waltham,	2	4	6	Weymouth,	1	-	1
Warwick,	1	-	1	Whitman,	-	1	1
Watertown,	-	1	1	Winchester,	-	2	2
Waverley,	-	1	1	Winthrop,	-	1	1
Webster,	-	1	1	Worcester,	18	14	32
Wellesley,	1	-	1	Totals,	236	252	538
Westborough,	-	1	1				

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Attendant,	1	1	2	Cutter, meat,	1	-	1
Automobile repairer, .	1	-	1	Cutter, shoe,	4	-	4
Baker,	2	-	2	Cutter, stencil,	-	1	1
Ball player,	1	-	1	Cutter, stone,	2	-	2
Barber,	1	-	1	Dentist's assistant, . .	1	-	1
Bell boy,	1	-	1	Domestic,	-	27	27
Bookbinder,	1	-	1	Draftsman,	1	-	1
Bookkeeper,	1	2	3	Dressmaker,	-	4	4
Bootblack,	1	-	1	Druggist's assistant, .	1	-	1
Bottler,	3	-	3	Egg inspector,	1	-	1
Canvasser,	2	-	2	Electrician,	5	-	5
Carpenter,	5	-	5	Elevator man,	3	-	3
Cashier,	1	-	1	Engineer, stationary, .	1	-	1
Chauffeur,	6	-	6	Factory,	44	40	84
Cigar maker,	2	-	2	Farmer,	1	-	1
Clerk,	25	14	39	Fireman, railroad, . . .	1	-	1
Coachman,	2	-	2	Fireman, stationary, .	3	-	3
Cobbler,	1	-	1	Fisherman,	2	-	2
Conductor, street railway,	4	-	4	Floor layer,	1	-	1
Cutter, card,	1	-	1	Florist,	2	-	2

TABLE 6. — *Occupations* — Concluded.

	Males.	Females.	Totals.		Males.	Females.	Totals.
Freight handler, . . .	1	-	1	Peddler,	2	-	2
Fuel tester,	1	-	1	Physician,	1	-	1
Gardener,	1	-	1	Plasterer,	1	-	1
General work,	4	1	5	Police officer,	3	-	3
Glazier,	1	-	1	Printers,	10	-	10
Hatter,	2	-	2	Rodman,	1	-	1
Hoseman,	1	-	1	Salespeople,	8	4	12
Housewife,	-	88	88	Sawyer,	2	-	2
Housework,	-	16	16	Seamstress,	-	1	1
Insurance agent,	1	-	1	Sheet metal worker,	1	-	1
Interior decorator,	1	-	1	Shipper,	3	-	3
Iron worker,	1	-	1	Station agent,	1	-	1
Janitor,	6	-	6	Steam fitter,	1	-	1
Laborer,	14	-	14	Stenographer,	2	6	8
Lamp repairer,	1	-	1	Steward,	1	-	1
Laundress,	-	1	1	Stock broker,	1	-	1
Lawyer,	1	-	1	Stone mason,	1	-	1
Leather worker,	1	-	1	Stone setter,	1	-	1
Machinist,	13	-	13	Student,	14	10	24
Manicurist,	-	1	1	Tailor,	7	-	7
Merchant,	1	-	1	Teacher, piano,	-	1	1
Messenger boy,	1	-	1	Teacher, school,	-	2	2
Motorman,	2	-	2	Teamster,	14	-	14
Night watchman,	2	-	2	Telephone operator,	-	9	9
No work,	3	7	10	Tinsmith,	2	-	2
Nurse maid,	-	2	2	Waiter,	3	6	9
Nurse, student,	-	5	5	Wood carver,	2	-	2
Nurse, trained,	1	3	4	Wire designer,	1	-	1
Painter,	6	-	6	Totals,	236	252	538
Pattern maker,	1	-	1				

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	101	106	207	38.47
Moderately advanced,	135	115	250	46.46
Far advanced,	43	23	66	12.27
Unclassified,	2	5	7	1.31
Nontuberculous,	5	3	8	1.49
Totals,	286	252	538	-

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	116	92	208
Improved,	77	100	177
Unimproved,	46	41	87
Died,	16	16	32
Nontuberculous,	5	4	9
Not considered,	9	13	22
Totals,	269	266	535

TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	DURATION.	Length of Stay.	Cause of Death.
9648	1 year, . . .	11 months, 7 days, .	Pulmonary tuberculosis.
9439	1½ years, . . .	17 months, 4 days, .	Hæmoptysis, pneumonia and pulmonary tuberculosis.
9901	3 months, . . .	5 months, 8 days, .	Laryngeal and pulmonary tuberculosis.
9195	6 months, . . .	23 months, 29 days, .	Tuberculous enteritis and pulmonary tuberculosis.
9798	8 years, . . .	8 months, . . .	Pneumonia and pulmonary tuberculosis.
9592	1 year, . . .	14 months, 20 days, .	Pneumonia and pulmonary tuberculosis.
8051	4 years, 4 months,	51 months, 20 days, .	Hæmoptysis and pulmonary tuberculosis.
9950	1 year, . . .	6 months, 11 days, .	Pneumonia and pulmonary tuberculosis.
9649	6 years, . . .	13 months, 26 days, .	Pulmonary tuberculosis.
9837	1 year, . . .	9 months, 7 days, .	Miliary tuberculosis.
9565	4 years, . . .	17 months, . . .	Pulmonary tuberculosis.
7962	1 year, . . .	54 months, 3 days, .	Pulmonary tuberculosis.
10033	8 months, . . .	5 months, 20 days, .	Miliary tuberculosis.
10204	years, . . .	1 month, 22 days, .	Pulmonary tuberculosis.
9751	5 years, . . .	12 months, 15 days, .	Pulmonary tuberculosis.
10246	3 months, . . .	1 month, 4 days, .	Tuberculous meningitis and pulmonary tuberculosis.
9783	3 years, . . .	12 months, 6 days, .	Pulmonary tuberculosis.
9517	1 year, . . .	19 months, 27 days, .	Empyema and pulmonary tuberculosis.
9835	10 months, . . .	11 months, 7 days, .	Pneumothorax and pulmonary tuberculosis.
9249	5 years, . . .	27 months, 10 days, .	Miliary tuberculosis.
10271	2 months, . . .	2 months, 13 days, .	Pulmonary tuberculosis.
9968	12 years, . . .	10 months, 3 days, .	Pulmonary tuberculosis.
10150	6 months, . . .	5 months, 16 days, .	Pulmonary tuberculosis.
10401	8 months, . . .	1 month, 3 days, .	Tuberculous meningitis and pulmonary tuberculosis.
10468	2 years, . . .	1 month, 8 days, .	Laryngeal and pulmonary tuberculosis.
9894	10 months, . . .	15 months, 4 days, .	Pulmonary tuberculosis.
10042	9 months, . . .	11 months, 21 days, .	Miliary tuberculosis.
10504	3 months, . . .	1 month, . . .	Endocarditis and pulmonary tuberculosis.
10409	years, . . .	4 months, 8 days, .	Pulmonary tuberculosis.
10002	2 months, . . .	13 months, 20 days, .	Pulmonary tuberculosis.
9818	6 years, . . .	17 months, 18 days, .	Laryngeal and pulmonary tuberculosis.
10144	1 year, . . .	2 months, 18 days, .	Pulmonary tuberculosis.

Climatological Data, Rutland State Sanatorium, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1914, and ending Nov. 30, 1915.

DATE.	TEMPERATURE (DEGREES).		Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	PRECIPITATION.			WIND (MILES).			Mean Relative Humidity (Per Cent.).
	Mean.	Departure from Normal.					Rain.	Departure from Normal.	Snow.	Total.	Average per Hour.	Departure from Normal.	
1914.													
December,	22.4	-3.5	10	9	9	11	4.23	+0.69	6.5	7,860.5	10.8	+0.2	73.9
1915.													
January,	26.1	+3.0	13	6	12	15	6.96	+3.13	8.5	7,450.0	10.0	-1.7	80.4
February,	27.3	+6.8	12	8	8	11	3.60	+0.55	4.7	6,773.1	10.1	-2.1	76.6
March,	29.6	-1.9	20	9	2	4	.09 ¹	-3.70	0.8	7,267.2	9.8	-1.3	62.5
April,	48.0	+4.7	13	11	6	11	1.85	-2.05	8.8	7,459.9	10.4	-0.6	67.3
May,	53.1	-1.7	16	10	5	10	1.84	-1.48	-	6,843.8	9.2	-0.8	67.6
June,	62.2	-0.2	14	12	4	14	3.98	+0.41	-	5,855.9	8.1	-0.6	76.4
July,	67.6	-0.9	14	10	7	19	6.89	+3.14	-	5,240.5	7.0	-1.4	83.0
August,	64.4	-1.0	16	7	8	16	6.54	+2.10	-	5,900.5	7.9	-0.1	85.8
September,	63.9	+3.8	20	8	3	5	1.77	-1.98	-	5,921.7	8.2	-0.1	80.6
October,	51.0	+1.0	19	4	8	8	2.92	-0.71	-	7,053.3	9.5	+0.4	80.9
November,	38.6	+1.3	16	6	8	9	3.50	+0.57	0.7	7,265.8	10.1	-0.4	64.7
Totals,	554.2	-	133	100	80	133	44.17	-	30.0	80,892.2	111.1	-	899.7
Averages,	46.2	+1.0	15+	8+	7-	11+	3.64	+0.05	5.0	6,741.0	9.3	-0.7	75.0

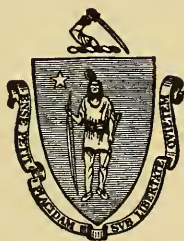
¹ Minimum amount of any month on record.

TENTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES.

NOVEMBER 30, 1916.



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TRUSTEES.

ARTHUR K. STONE, M.D., *Chairman.*

CHARLES J. DOWNEY, M.D. SYLVIA B. KNOWLTON.

GEORGE A. DUNN. DANIEL L. PRENDERGAST.

ALBERT C. GETCHELL, M.D. SIMON SWIG.

JOHN B. HAWES, 2D, M.D., *Secretary.*

STATE HOUSE, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report: —

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland State Sanatoria, providing beds for nearly 1,100 patients, have passed an active and successful year. They have provided a total of 393,267 days of treatment for 2,525 patients.

It is customary among health authorities and those interested in the suppression and control of tuberculosis all over this country to divide institutions for the treatment of this disease into two classes, "hospitals" and "sanatoria." Tuberculosis hospitals are intended for patients in the far advanced and progressive stages of the disease, for emergency cases, for cases awaiting admission to a sanatorium, and for incorrigible consumptives. Such hospitals should be easily accessible to the friends and relatives of the inmates. The sanatoria, however, play a different part. The word "sanatorium," coming from the Latin "sanare," to heal, implies that active efforts are made in these institutions to cure or at least to arrest the disease. This can be done only for patients in the early and favorable stages of tuberculosis and for those who are willing to give their active co-operation. Although every sanatorium should be as accessible as possible, the outlook and general surroundings and morale of the institution are of far greater import. In accordance with this generally accepted policy regarding the distinction between tuberculosis hospitals and sanatoria, this Board of Trustees is making every effort to make the four institutions

under its charge true sanatoria in every sense of the word, for the active treatment and arrest of early and favorable cases of pulmonary tuberculosis.

THE CLASS OF PATIENTS ADMITTED TO THE STATE SANATORIA.

The Rutland Sanatorium will be reserved as in the past for patients in the early and favorable stages of the disease. The Westfield Sanatorium is coming to be more and more an institution for children. The North Reading and Lakeville Sanatoria will continue to accept only those patients, not necessarily in the incipient stages of tuberculosis, but who at least are regarded as curable or capable of great improvement or ultimate arrest.

LOCAL TUBERCULOSIS HOSPITALS.

There has been only one new local tuberculosis hospital opened during the past year, although nearly 200 new beds have been provided in the hospitals already established. The Hampshire County Sanatorium continues to fill its useful function, which consists of caring for patients in the advanced stages, not eligible for our State sanatoria, coming from isolated country districts in this county and elsewhere where there are no local tuberculosis hospitals. The law passed by last year's Legislature, known as the county hospital act, chapter 286, General Acts of 1916, when its provisions are carried out, will be a great step in advance. This law provides for the construction of county tuberculosis hospitals to provide for those districts, chiefly small manufacturing towns and agricultural communities, whose patients cannot now be cared for in municipal tuberculosis hospitals.

SUBSIDY DEPARTMENT.

The amount appropriated to be paid to various cities and towns under the subsidy act (chapter 637, Acts of 1912) for the year 1916 was \$192,644.29. This is an increase of approximately \$27,000 over the appropriation for the year 1915. This amount was allowed 83 cities and towns. The number of applications for subsidy was 2,394, which is an increase of 433 over the previous year; 244 of these cases, the subsidy for which

amounted to \$15,000, upon investigation by our subsidy agent, Mr. Louis N. Phaneuf, were not accepted for various reasons.

While this increase in the amount appropriated this year over last for the purposes of this State subsidy to cities and towns is in some ways encouraging evidence of increased activity by local communities in handling their own tuberculosis problem, it is important that each case applying for this subsidy be carefully scrutinized, and that the original purpose of this subsidy act, *i.e.*, to promote the building and use of tuberculosis hospitals by cities and towns, be borne in mind.

TUBERCULOSIS DISPENSARIES.

The tuberculosis dispensaries, which in accordance with the provisions of chapter 576, Acts of 1911, have finally been established by the State Department of Health in towns and cities of 10,000 inhabitants or over, should soon make their influence felt not only in the discovery of new cases while yet in the incipient stages, but also in the care and supervision of patients outside of sanatoria and hospitals, and particularly in the after-care of patients discharged from State sanatoria and elsewhere. Neither State sanatoria nor the local tuberculosis hospitals nor these dispensaries can possibly accomplish much in eradicating tuberculosis unless these three agencies have the hearty co-operation of local health boards, private charities and particularly of every practicing physician in this Commonwealth. This Board invites such co-operation, and stands ready to provide information and help as far as lies in its power to all who may inquire in regard to matters pertaining to tuberculosis.

REGULATIONS CONCERNING THE ADMISSION AND DISCHARGE OF PATIENTS AT OUR STATE SANATORIA.

The two rules adopted last year at the Rutland State Sanatorium, namely, the one-month trial regulation and the two-year limit, continue to work out satisfactorily. Under the one-month rule, every patient admitted to this institution is on trial for a period of one month. If at the end of the time he is found to be unsuited for Rutland he is transferred elsewhere.

The law limiting the stay of patients at Rutland to two years is helping to weed out a considerable class of consumptives who had become thoroughly hospitalized, and who had long since made all the gain that was possible at Rutland; by their continued stay other patients urgently in need of treatment were deprived of part of their chance of getting well. The Board is considering the possibility of reducing this two-year limit still further to eighteen months. This would be more in accordance with the custom at sanatoria elsewhere.

The problem of handling patients who have been discharged from our sanatoria for breach of discipline is an ever-present and difficult one. Each patient on entering any State sanatorium is given a plainly printed set of rules and regulations which he signs and agrees to obey. There are many patients, however, who, apparently through ignorance or deliberate malice, do not obey these rules. These patients, after being warned several times, are finally discharged for breach of discipline. In many instances, after their discharge, they realize the folly of their conduct and apply for readmission. While each of these cases is judged on its individual merits and constitutes a problem by itself, and while it is the custom to give a patient another trial unless the offence that has been committed is too flagrant, the Board feels that in order to have good discipline in these institutions it should be more strict in the future than it has been in the past about readmitting to any State sanatorium patients whom experience has taught are unwilling or unable to live according to the rules demanded of them. In view of the increasing number of beds in local tuberculosis hospitals where such patients can be well cared for, and particularly in view of the length of our waiting list, the Board does not feel that any real hardship will be caused by such action.

WAITING LIST.

The waiting list for our four sanatoria, although not so long as last year, is still a distressingly long one. At the present time there are 250 men and women upon this list. It is necessary for men to wait two months and women a slightly shorter time before they can be admitted. Although local accommoda-

tions in the way of municipal hospitals, etc., are constantly being increased, the demand on our State sanatoria seems in no way diminished, but rather the reverse. This does not necessarily mean that tuberculosis in this State is increasing. It is, on the other hand, a decidedly hopeful sign, showing that more cases than heretofore are being diagnosed and are seeking sanatorium treatment.

SANATORIUM AND HOSPITAL CLASSES.

The system of dividing the patients at our State sanatoria into two groups — the “sanatorium” and the “hospital” classes — has been continued as heretofore with varying results at the different sanatoria. The Board feels that it is proper to be more strict in readmitting patients who have had one opportunity at the State sanatoria, and who have not seen fit to co-operate with the physicians nor to take advantage of the treatment offered them there. These are the patients which comprise the hospital class. It is only in special instances, therefore, that patients who are discharged from our sanatoria as of the hospital class are readmitted. On the other hand, patients who have been in the sanatorium class, and who have co-operated in every way with their physicians, and have really tried to get well, are on request discharged on parole, which means that should they suffer a relapse later on and need further treatment they can be readmitted without waiting their regular turn on the list. In this way a premium is put upon good behavior and earnestness of purpose at our sanatoria.

The Board still feels that this system of dividing patients into two classes is a good one and should be continued. As mentioned above, we feel that it is proper to be more strict in readmitting patients who have already had one opportunity and who have failed to take advantage of it.

AFTER-CARE WORK — DISCHARGED PATIENTS.

In all the field of tuberculosis work there is probably no part of treatment which is of greater importance than that consisting of the care and supervision of the patient after he has left the sanatorium. The feeling, which is not without its strong advo-

cates in this country, that the sanatorium care of consumptives is somewhat of a failure, is due largely to the fact that while the sanatoria themselves are doing good work of the highest class, this good work is not continued after the patient leaves the institution. Realizing this, four years ago the Board engaged Miss Bernice W. Billings as an after-care worker. Miss Billings' duty was to follow up the patients discharged from our State sanatoria; to get in touch with local physicians, boards of health and other agencies; and to try in every way to see that the patient found suitable employment, kept on with the lessons which he was supposed to have learned at the institution, and at least did not infect others. Miss Billings' work, which has greatly increased in duties and responsibility, has continued ever since. She has not only looked up our own patients, but numerous others at the request of the State Department of Health. The local tuberculosis dispensaries recently established have taken some of the load off her shoulders in towns and cities of 10,000 inhabitants or over, and this has enabled her to concentrate her endeavors among those coming from the isolated country districts and smaller towns and villages not having a nurse or tuberculosis dispensary. The fact that Miss Billings calls on the dispensary nurses for reports on her patients tends to raise the standard of their work, and also gives her a clear idea as to their efficiency. The Board feels that Miss Billings' work should be encouraged in every way possible, so that gradually a system may be built up whereby the breach which now exists between carefully supervised life inside of the State sanatorium and the life without supervision, with the necessity of earning a living and supporting the family at perhaps unsuitable employment, into which the patient is now plunged after leaving the institution, will cease to exist. Here, again, the efforts of the State through its after-care workers, and the efforts of local tuberculosis dispensaries and similar agencies, will avail but little unless the general practitioners throughout the State will realize that it is their duty to seek out their discharged sanatorium patients and to help and advise them through this trying period.

After-care Work, Nov. 1, 1915, to Nov. 1, 1916.

	Number.	Per Cent.
Cities and towns,	149	-
Calls,	812	-
Total number of histories obtained,	1,105	-
Ex-sanatoria patients,	524	47.42
Special histories to State Department of Health,	581	52.58
Total histories sent to State Department of Health,	790	-
Ex-sanatoria patients,	209	26.45
Special histories,	581	73.55
<i>Histories of Ex-sanatoria Patients.</i>		
Number of patients discharged from —		
Rutland,	190	36.26
Lakeville,	128	24.43
North Reading,	108	20.61
Westfield,	98	18.70
Classification on admission: —		
Incipient,	123	23.47
Moderately advanced,	228	43.51
Advanced,	172	31.83
Not examined,	1	.19
Classification on discharge: —		
Arrested,	152	29.00
Quiescent,	45	8.59
Improved,	178	33.97
Unimproved,	105	20.04
Not examined,	44	8.40
Positive sputum on discharge,	203	38.74
Number of patients —		
who have died,	52	9.92
who have left the State, etc.,	101	19.28
visited,	371	70.80
Condition of 371 patients at time of visit: —		
Good,	176	47.44
Fair,	105	28.30
Ill,	90	24.26
At time of visit, number of patients working,	192	51.75
At time of visit, number of patients not working,	179	48.25
Number of patients under medical supervision,	264	28.84
Number of patients not under medical supervision,	107	71.16

EX-PATIENTS ON THE PAY ROLL.

The Board has still continued its policy of offering employment to patients who on discharge are found to be suited for work which the sanatorium can provide. At the North Reading Sanatorium during the past year there have been 22; at Westfield, 42; at Rutland, 134; and at Lakeville, 10; making a total of 212 ex-patients who have been given employment and still have been kept under medical supervision in the four State sanatoria.

The employment of ex-patients at our sanatoria is not without certain disadvantages. The question of segregating these tuberculous employees, or at least those who although perfectly able to work still have bacilli in the sputum, from the non-tuberculous employees is an important one, and one that must be satisfactorily met. Again, although from the point of view of the individual employee it is an excellent thing for him to be given work under constant supervision, it is doubtful whether from the point of view of economy to the State this is a wise procedure. A certain number of these patients will inevitably break down and cause consequent detriment to the efficiency of the working staff; and finally, it has come to notice that there is a certain bond existing between most ex-patients staying on at the sanatorium as employees and their former friends and companions who are still patients, which does not always work to the advantage of the sanatorium management. At the same time, it must be recognized that some of our most efficient and trusted employees are ex-patients.

Although the final decision in the matter of deciding whether a given patient about to be discharged may still be taken on as an ex-patient employee is left to the individual superintendents to decide, the Board is inclined to restrict rather than to extend this policy of employing ex-patients until suitable dormitories or other quarters can be built at each institution for the special purpose of housing and of caring in a suitable manner for these ex-patient employees, each of whom is in need of continued treatment in modified form for a long time after his official discharge as a patient from the sanatorium.

DENTISTRY.

The question of giving proper care to the patients' teeth is a difficult one, while the need of proper dentistry is recognized to be of the greatest importance in tuberculosis work. At each of our State sanatoria there has been and still is an arrangement by which a dentist comes from a near-by city or town a certain number of times each week or month and takes care of the more urgent cases. As this dentist is in private practice and busy with his own patients he cannot possibly do all the work which is needed. The Board, therefore, has decided to employ

a dentist on full time at a proper salary, whose duty it will be to spend a certain time at each institution in turn, perhaps one month, going over all the patients' teeth that need attention. In addition to this every physician making application for a patient's admission to a State sanatorium is urged to see as far as lies in his power that the patient's teeth are in good condition before his admission.

X-RAY PLANT.

There is perhaps no single agent which will give more valuable information in noting the progress of any given case of pulmonary tuberculosis than the X-ray. In addition to an X-ray plant at each institution, however, a physician specially trained and qualified by experience to handle this complex and delicate apparatus and to interpret his findings properly is a necessary adjunct. Especially in the case of children and while using the collapse treatment of the lung by nitrogen gas, known as artificial pneumothorax, are X-ray observations practically essential. The Board would recommend, therefore, that each institution be provided with a suitable X-ray plant, and that suitable medical service be engaged to carry on this work.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past, and has steadily increased. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and anti-tuberculosis workers not only in Massachusetts but all over the country. The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the State work. Members of the Board, the secretary and the four superintendents have given many informal talks on the subject of tuberculosis to the patients in the sanatoria, and outside at women's clubs, meetings of physicians and other public meetings. In addition to this, articles of medical and scientific interest, based on work carried on in the sanatoria, have been published in medical

journals from time to time. A list of such articles is appended. The "Journal of the Massachusetts State Sanatoria," a paper published at the Rutland State Sanatorium, has been temporarily suspended owing to pressure of work at the Rutland Sanatorium. It is planned, however, to resume its publication in the near future.

The New England Tuberculosis Conference was held October 12 and 13 at New Haven, Conn. His Excellency the Governor appointed the members of this Board, the four superintendents, the secretary of the Board and Miss Billings, the after-care worker, as delegates to this conference. Over 300 doctors, social workers, nurses, laymen and others interested in the subject of tuberculosis from every part of New England attended this meeting, which was a stimulating one. In addition to the regular program, at which papers of vital interest were read and discussed, there were round-table conferences at which small groups of persons gathered and discussed in a more intimate way certain details of the tuberculosis problem. The secretary of the Board, Miss Billings and each of the superintendents took part in these discussions. There was a large meeting open to the public at which that most important subject of health insurance as related to tuberculosis was taken up from the point of view of the laboring man, the employer, the physician and the economist. In addition to these gatherings, and of fully as great importance, were the innumerable opportunities for the delegates appointed by the Governor to meet with others engaged in similar work, to discuss the problems which each had met and to compare notes as to the way in which these problems had been solved. To those of us who are intimately engaged in tuberculosis work, where progress is necessarily slow and where it is only too easy to become a profound pessimist, such meetings as this offer the greatest hope and encouragement and are of infinite value. The Board wishes to extend its thanks to the Governor for the opportunity which he has hereby given to the members of this Board, its superintendents and others to attend this and similar meetings.

The following articles, based on anti-tuberculosis work in Massachusetts, in our State sanatoria and elsewhere, have been written and published during the past year by members of the Board and the superintendents: —

Dr. Arthur K. Stone:—

Some Problems of the Trustees of Massachusetts Hospitals for Consumptives. (Boston Medical and Surgical Journal, Oct. 12, 1916.)

Dr. Elliott Washburn:—

Progress in Tuberculosis. Problems and Progress in Pulmonary Tuberculosis, the Viewpoint of a Sanatorium Administrator.

Dr. James A. Lyon:—

Relation between Pulmonary Syphilis and Pulmonary Tuberculosis.

Dr. Roy Morgan:—

Prevention of Tuberculosis.

Dr. John B. Hawes, 2d:—

Common Sense and Consumption. (Boston Medical and Surgical Journal, July 27, 1916.)

Five Years' Progress in the Diagnosis and Treatment of Consumption by Massachusetts Physicians. Boston Medical and Surgical Journal, June 1, 1916.)

Progress in Tuberculosis. A Review of Recent Literature. (Interstate Medical Journal, Vol. XXIII., No. 11.)

Progress in Tuberculosis. Dr. John B. Hawes, 2d, and Dr. P. Challis Bartlett. (Boston Medical and Surgical Journal, March 1, 1916.)

REPORT ON LARYNGEAL TUBERCULOSIS AND THE TREATMENT OF OTHER NOSE AND THROAT CONDITIONS.

I herewith submit my report as consulting laryngologist to the North Reading, Lakeville, Westfield and Rutland State sanatoria. The following table shows the frequency of this complication at these institutions:—

Laryngeal Tuberculosis among Patients at the Massachusetts State Sanatoria.

	No. READING.			LAKEVILLE.			WESTFIELD.			RUTLAND.		
	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.	Males.	Females.	Totals.
Total number of inmates under treatment during the year.	148	125	273	280	145	425	140	142	282	233	232	465
Number of cases of laryngeal tuberculosis.	26	12	38	47	23	70	11	5	16	36	13	49
Involvement of the epiglottis.	-	-	11	-	-	-	-	-	5	-	-	4

At the North Reading Sanatorium, in addition to these cases of laryngeal tuberculosis, a large number of cases of atrophic rhinitis have been observed. At the Lakeville State Sanatorium, of the 70 patients with

involvement of the throat, in 52 this was associated with advanced pulmonary disease and in 18 with moderately advanced pulmonary disease. At the Westfield State Sanatorium, where there is a large proportion of children under fifteen years, a study of the relation of enlarged tonsils to enlarged glands in the neck has been carried on. Of those patients with enlarged tonsils 45 showed no enlargement of the glands, while 36 showed definite glandular enlargement. Seventy-five patients had enlarged glands without an associated enlargement of the tonsils. In 28 cases the tonsils were removed before admission, while there was a history of repeated attacks of tonsillitis in 20 instances. At the Rutland State Sanatorium, of the 49 patients with laryngeal tuberculosis 46 had a positive sputum. Treatment of these cases with applications of the galvanocautery has resulted in such marked benefit as to lead to the continuance of this method of treatment.

In addition to the operative procedure for tuberculosis of the larynx other operations for removal of tonsils, nasal polyps and diseased ethmoid tissue have been performed.

ALBERT C. GETCHELL, M.D.,
Trustee.

PRISON LABOR.

The subject of prison labor was discussed in our last report. The Legislature of last year felt that this experiment should be continued at the Rutland Sanatorium, and appropriated the sum of \$5,000 for its continuance. The Legislature felt, before endorsing this system at the other State sanatoria, — at North Reading, Lakeville and Westfield, — that further information should be gained in regard to the matter at Rutland. Owing to the fact, however, that no prisoners have been available to carry on this work nothing has been done in this line during the past year.

ACKNOWLEDGMENTS.

The Board hereby acknowledges its indebtedness to the State Board of Charity, the State Department of Health, the State Agricultural College, Bureau of Animal Industry, Prison Commission and others for much timely advice and assistance in matters pertaining to its work.

NORTH READING STATE SANATORIUM.

At the North Reading Sanatorium the medical building for which the appropriation was made last year has been completed and is proving a valuable addition to the sanatorium equip-

ment. The work on the new power house for which appropriation was made last year is progressing favorably and is nearing completion. The storehouse and root cellar, for which appropriation was made last year, was completed the latter part of the summer and is now in use. A small wooden camp accommodating four patients, to take the place of a canvas house, has been completed. Another small camp to house two ex-patient employees has also been built. A small storage house and two outdoor poultry houses at the hennery have been built and are in use.

Various improvements have been made about the grounds, such as additional walks, grading, etc.

The average number of patients for the year has been 200.34.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$42,488 50
Religious services,	1,425 00
Travel, transportation, office expenses,	2,775 00
Food,	31,750 00
Clothing and materials,	200 00
Furnishings,	2,700 00
Medical and general care,	2,495 00
Heat, light and power,	6,000 00
Farm and stable,	3,410 00
Grounds,	700 00
Repairs, ordinary,	2,000 00
Repairs and renewals,	1,610 00
	<hr/>
	\$97,553 50
For special appropriations: —	
Hospital building,	\$68,285 00
Administration building,	65,096 00
	<hr/>
	\$133,381 00

LAKEVILLE STATE SANATORIUM.

During the past year a dairy barn and milk room with two silos, having a capacity of 250 tons, have been built, with the result that the whole supply of milk for the sanatorium has been produced on the premises since October, 1915. In addition to this the large tract of land which was secured under appropria-

tion granted last year has been put under cultivation, as a result of which an abundant supply of ensilage and hay is at hand. A coal trestle 160 feet long and 15 feet high, with solid cement piers, has been constructed and is now in use.

The sanatorium has co-operated with the physicians, board of health, women's club and the district nursing association of Middleborough during the past year. As a result of this co-operation and increased activity in health matters it is gratifying to be able to report tangible results which have been realized during the year 1916. The physicians of Middleborough with the sanatorium physicians have organized a Doctors' Club through which questions pertaining to the public health are presented to the people of the town in a way to exert considerable influence. Through the initiative of the Doctors' Club, and the co-operation of the organizations mentioned above, a free tuberculosis clinic has been established at the office of the board of health. All examinations are made by the sanatorium physicians, records of which are kept as the property of the board of health. Sixty-nine examinations have been made, with the following results:—

Suspicious; kept under observation,	18
Incipient,	3
Moderately advanced,	7
Advanced,	2
Arrested (ex-patients),	5
Non-tuberculous,	34

A pleasant feature of this out-patient work by the sanatorium is that many of these patients are sent by the local physicians; in fact, the local physicians frequently come to the clinic with their patients. This activity in the community by the sanatorium is sure to prove of immense value from a public health standpoint, and shows the high esteem in which the sanatorium is held in this vicinity.

The average number of patients at the Lakeville Sanatorium during the past year was 262.82. There is urgent need of a pavilion to take care of patients during the entire year who are now inadequately housed in tents during the summer months. It is also necessary that the capacity of the boiler plant be in-

creased as soon as practicable, as the steam boilers, refrigerating machine and laundry machinery are taxed to their capacity at the present time. There is no margin of safety whatever to fall back upon in case of an accident to the present plant.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries and wages,	\$58,210 00
Religious instruction,	1,250 00
Travel, transportation, etc.,	4,665 00
Food,	30,000 00
Clothing,	150 00
Furnishings and household supplies,	5,660 00
Medical and general care,	3,000 00
Heat, light and power,	9,180 00
Farm and stable,	20,500 00
Grounds,	1,600 00
Repairs, ordinary,	4,900 00
Repairs and renewals,	1,400 00
	<hr/>
	\$140,515 00

For special appropriations: —

Addition to power plant and laundry,	\$27,722 18
Improvements at dairy farm,	3,000 00
Storehouse,	5,000 00
Pavilion for 20 patients,	3,000 00
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	\$38,722 18

WESTFIELD STATE SANATORIUM.

At the Westfield State Sanatorium there has been a slight increase in the number of bed patients. This is partly due to the fact that greater efforts have been made this year than before to endeavor to admit to the Rutland Sanatorium only early and favorable cases, thus leaving a larger proportion of patients in the moderately advanced stages for the other sanatoria. As stated before, it is the policy of this Board not to admit patients in the far-advanced and progressive stages of the disease to our State sanatoria, especially when they come from towns and cities provided with local tuberculosis hospitals.

The new school building was finished in December, 1915, and has been in use since that time. A barn for young stock and a barn for storage purposes are nearing completion. A dairy

room has been added to the cow barn, and a complete pasteurizing outfit is ready to be installed.

There are 150 children of school age at this institution. Although the greater number of these children have received definite and systematic instruction during the school year, there have been periods when, owing to the difficulty in obtaining suitable teachers, instruction has been curtailed or otherwise limited. In addition to the educational advantage of such a school to the children themselves this school has been of inestimable value in maintaining discipline in the sanatorium.

There are now 42 ex-patients on the pay roll, the average number of employees for the year being approximately 100. The average number of patients for the year is 264, an increase of 6 over last year. A cafeteria system introduced during the past year is working with continued success and economy for the institution.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$55,074 00
Religious instruction,	1,290 00
Travel, transportation, etc.,	4,676 00
Food,	33,550 00
Clothing and materials,	1,620 00
Furnishings and household supplies,	8,143 00
Medical and general care,	2,980 00
Heat, light and power,	10,020 00
Farm and stable,	12,065 00
Grounds,	405 00
Repairs, ordinary,	7,045 00
Repairs and renewals,	4,700 00
	<hr/>
	\$141,568 00

For special appropriations:—

Garage, carpenter shop and root cellar,	\$8,000 00
Dormitory,	7,900 00
Superintendent's house,	9,000 00
X-ray machine,	2,500 00
Sewage filtration beds,	7,500 00
Fireproof vault,	1,500 00
	<hr/>
	\$36,400 00

RUTLAND STATE SANATORIUM.

The rule limiting the length of residence at this institution to two years has acted beneficially during the past year. There still remain, however, at this institution a considerable number of patients who are in the chronic stages of the disease, or who are advanced cases gradually progressing. The Board is of the opinion that this period of residence of two years is still too long, and that it should be reduced to eighteen months. This will bring it more in accordance with the custom at other institutions, and will enable the sanatorium to care for many more patients than it can now, and to shorten our waiting list, which is a distressingly long one.

The rule whereby every patient entering the sanatorium is put on trial for a period of one month has also brought good results, in that it enables the superintendent to eliminate at once patients who are manifestly unsuited for treatment at that institution as incipient and favorable cases. Despite everything that can be done, however, and despite the beneficial effect of these two rules, there is still at Rutland a large number of patients, in the moderately advanced and advanced stages of the disease, who really do not belong in an institution reserved for early and incipient cases. How to decrease this number, and how to deal with these cases once they are admitted, is a difficult problem. Under the present system of admissions, whereby any registered physician in this State, by filling out a certain detailed blank, can make application for his patients to enter the Rutland Sanatorium, the proportion of incipient cases has gradually risen, until now the proportion of incipient cases admitted under this system is as large as that obtained under the old system of special Rutland examinations. Nevertheless, we feel that this proportion of early cases should be much higher, and that the number of far-advanced and chronic cases should be decreased. The Board is quite unwilling to return to the old system of special examinations, as it believes that the duty of making application for patients for admission to the Massachusetts State sanatoria should be in the hands of the medical profession of this State, and not in the hands of a few special examiners. The Board believes, however, that in the

future these applications for Rutland should be scrutinized with greater care, and that in every case a further examination of the patient by his physician should be required shortly before his name is reached for assignment to the sanatorium.

The new coal trestle and siding at a point halfway between Muschopauge and Jefferson stations has been built. It is proposed to receive here all the coal and heavy freight for the sanatorium, which will be a great saving in time and expense in hauling freight from the railroad to the sanatorium. The greenhouse for which appropriation was made last year has been completed and is in operation. Likewise, a farm tractor and equipment, for which appropriation was made last year, has been purchased and is extensively used in hauling heavy freight, in ploughing and other farm work. Although appropriation was made for the continuing of prison labor on the sanatorium grounds, it was necessary to discontinue this work because no prisoners were available for this purpose.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries and wages,	\$73,505 00
Religious instruction,	1,400 00
Travel, transportation, etc.,	4,165 00
Food,	75,100 00
Clothing,	102 00
Furnishings and household supplies,	7,900 00
Medical and general care,	6,213 00
Heat, light and power,	18,205 00
Farm and stable,	9,420 00
Grounds,	90 00
Repairs, ordinary,	4,580 00
Repairs and renewals, extraordinary,	3,300 00
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	\$203,980 00
For special appropriations: —	
Fireproof vault and equipment,	\$2,000 00
New kitchen building, including system of artificial refrigeration and installation of one additional boiler,	60,000 00
	<hr/>
	\$62,000 00

RECOMMENDATIONS.

The Board would respectfully recommend that chapter 474 of the Acts of 1907, entitled "An Act to provide for the establishment of three sanatoriums for tubercular patients," be so amended as to omit section 14 thereof, which reads as follows: "The state board of charity shall have general supervision of said sanatoriums, and shall, when so directed by the governor, assume and exercise the powers of the board of trustees thereof in any matter relating to the management of the same." This Board feels that the problem of tuberculosis is one of health and not of charity and that such supervision by the State Board of Charity is unnecessary.

The Board would further recommend that its present title as the "Trustees of Hospitals for Consumptives" be changed to that of the State Tuberculosis Commission. The Board feels, in view of the fact that it is not concerned with hospitals for consumptives but with sanatoria, and that its present title is a misleading and cumbersome one, that the proposed change will be of distinct benefit.

Respectfully submitted,

ARTHUR K. STONE, M.D.
CHARLES J. DOWNEY, M.D.
GEORGE A. DUNN.
ALBERT C. GETCHELL, M.D.
SYLVIA B. KNOWLTON.
DANIEL L. PRENDERGAST.
SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MACCORISON, M.D.,	.	.	.	.	Superintendent.
NEWELL B. BURNS, M.D.,	.	.	.	.	Assistant Superintendent and Physician.
WILLIAM C. JENSEN, M.D.,	.	.	.	.	Physician.
ALBERT E. YOUNG,	.	.	.	.	Bacteriologist.

ANNA C. O'DWYER,	.	.	.	.	Superintendent of Nurses.
MIRA B. ROSS,	.	.	.	.	Matron.
J. ELLIS DOUCETTE,	.	.	.	.	Supervisor.
EDWARD W. PERRY,	.	.	.	.	Chief Engineer.
WILLIAM MARGESON,	.	.	.	.	Head Farmer.

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, Room 264, State House, Boston.

I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1916.

The records show that during the year 473 patients have been treated and 273 have been admitted, thus showing a decrease of 32 under last year. This decrease is due to longer residence of patients treated. There were 73,124 days of treatment in the year. The lowest daily census was 195, and the highest 202. The daily average number of patients was 200.34, which is 2.01 per cent. more than that of the preceding year.

There have been admitted during the year 10, or 3.66 per cent., incipient; 94, or 34.43 per cent., moderately advanced; 168, or 61.54 per cent., advanced cases; and 1, or .37 per cent., not determined. There has been a daily average of 80.26 bed cases, — approximately 40 per cent. of the daily population.

Of the patients discharged the average duration of residence in the sanatorium was 240 days, as opposed to 190 days for the preceding year; the longest residence of any person was 1,857 days, and the shortest, 2 days.

Of the 273 cases admitted, 203, or 74.35 per cent., were inside workers. Two hundred were admitted from cities and towns having a population of 25,000 or more, as follows: Boston, 96; Cambridge, 3; Chelsea, 15; Everett, 1; Fitchburg, 2; Haverhill, 2; Lawrence, 4; Lowell, 20; Lynn, 10; Malden, 19; Medford, 6; New Bedford, 2; Newton, 1; Revere, 6; Salem, 2; Somerville, 11.

Thirty-nine cases have been supported from private funds, 245 by cities and towns, 133 entirely by the State, and 6 private cases have later become either town or State charges. There were remaining, November 30, 12 private cases, 90 city or town cases, 54 State cases and 44 unknown cases.

Of the patients discharged during the year, 96 male and 81 females had gained in weight, the total gain being 2,174.50 pounds; the average male gain was 11.71 pounds, and the average female gain was 12.96; 8 patients remained stationary, 39 had lost and 48 had died.

Twenty-three patients, or 8.42 per cent., have been discharged "arrested;" 26, or 9.53 per cent., "apparently arrested;" 41, or 15.02 per cent., "quiescent;" 76, or 27.84 per cent., "improved;" 33, or 12.09 per cent., "unimproved;" 48, or 17.58 per cent., have died; 24, or 8.79 per cent., were "not considered" (duration of stay being less than one month); and 2, or .73 per cent., were not tuberculous.

The condition of patients on discharge shows a marked improvement over the record of 1915; for instance, in 1915 but 1.31 per cent. were discharged as "arrested," and 6.22 per cent. as "apparently arrested."

The average age was 31.78 years. One hundred and forty-one were foreign born, and 68 were American born, but of foreign parentage. Twenty-eight patients admitted have been previously treated at this sanatorium.

The total cost of maintenance for the year ending Nov. 30, 1916, was \$91,491.21; deducting \$633.83 collected from miscellaneous sources leaves a net amount expended for maintenance of \$90,857.38. The average per capita cost per week is \$8.757. There has been collected from private patients \$1,653.75, and from cities and towns, \$26,964.36. Further details will be found in succeeding pages of this report.

MEDICAL REPORT.

There has been no marked change in the general treatment. Intercurrent troubles have appeared, namely, mumps (1), chicken pox (1), lobar pneumonia (1), foreign body in the bronchus (1), empyema (1), appendicitis, probably tuberculous (2), orchitis, tuberculous (1), syphilis (4), peritonitis, tuberculous with ascites (1), pleurisy with effusion (3). A Colle's fracture was treated with good result. One treatment, artificial pneumothorax, was given. One case of spontaneous pneumothorax occurred and later died.

LABORATORY REPORT.

The routine clinical laboratory work has involved 1,359 sputum examinations, of which 85 per cent. were positive; also 544 urinalyses, 36 blood examinations, 7 pleuritic fluids, 22 Widal's and 22 genitourinary smears. In addition to the above, 71 samples of milk were tested for fat, specific gravity and solids.

SANATORIUM CLASS.

We still find the sanatorium and hospital class system of great assistance in maintaining discipline. I regret to state, however, that but a very few of our patients can be classified as strictly sanatorium-class patients.

WORK PERFORMED.

Of the work performed by patients during the year, 18,881 hours were devoted to housework, 933 hours to sewing, 2,426 hours to ward work, 682 hours to dining-room work, 481 hours to picking and preparation of garden truck, 1,846 hours to clerical work, 430 hours to gardening, 84 hours to mending chairs and 192 hours to painting of screens.

The following articles have been made up by the patients: 66 tablecloths, 278 towels, 186 laundry bags, 324 pillow slips, 141 sheets, 4 bedpan covers, 4 laboratory aprons, 15 table covers, 7 flannel swathes, 8 T-bandages.

RECOMMENDATIONS.

Attention is again called to the urgent need of increased hospital accommodations. During the past year fully 40 per cent. of our patients have been bed cases. As we have hospital accommodations for only 27 per cent. of our patients, it has been necessary to treat a great many bed cases on the pavilions. It is impossible to give a fever patient proper care on these open pavilions, and unless better hospital accommodations can be secured, I feel it my duty to recommend a reduction in the daily census, especially during the winter months.

Our waiting list seems to grow larger and larger. During the winter months it is necessary for a male patient to wait from two to three months before he can be admitted to the sanatorium; therefore I would recommend that the sum of \$68,285 be appropriated for the erection and equipment of a new hospital building to accommodate 50 patients.

We are experiencing more and more difficulty in securing and keeping desirable nurses and female employees. Our nurses are living 3 and 4 in one room, and they are not provided with a recreation or reception room, neither are the female employees. If we are to maintain an efficient nursing staff, suitable living quarters should be provided. We also have no suitable quarters for our night nurses, where they can sleep undisturbed during the day, and as a result we have experienced great difficulty in securing people to fill these positions. I would recommend that the sum of \$65,096 be appropriated for the erection of a new administration building, to accommodate the superintendent, medical staff and night nurses, and that the present administration building be altered at an expense of about \$300 to properly accommodate our nurses and female employees. We shall need for the coming year the sum of \$97,553.50 to cover the cost of maintenance.

IMPROVEMENTS.

Additional concrete walks have been laid about the hospital buildings during the year. Further repairs have been made to the verandas of the wards and pavilions. A small camp has been built south of pavilion B, west, to replace the old canvas kenyon house. New mastic floors have been laid in a few of the toilet rooms on the pavilions. A toilet room has been installed at the farmhouse.

A small tool house has been built near the hennerly; also two open-air pullet houses for growing stock. The new storehouse, for which a special appropriation was made by the Legislature of 1916, was completed in September. Work on the new power house and medical building, for which special appropriations were made in 1916, is nearly completed.

FARM.

Although the past season was very unfavorable for general farming, it is very gratifying to be able to state that our little farm has made a much better showing than in previous years. Although the total acreage planted to garden and field crop was reduced by 4.07 acres, and in spite of the fact that the cabbage, squash, pea and melon crops were failures, the production per acre, on the whole, was much in excess of that of previous years.

ACKNOWLEDGMENTS.

Dr. Harry S. Newhart resigned August 1, after four and a half years of loyal service, to enter private practice in Scranton, Pa. Miss Hannah M. Callahan, superintendent of nurses, resigned Jan. 6, 1916.

I wish to acknowledge our appreciation of the faithful and untiring services of our chaplains, the Rev. Father Francis Walsh, Rev. Henry M. Goddard and Rabbi Moses Robinson. I also wish to thank the Rev. Dr. Chas. Henry for his services in behalf of the patients of the Episcopal faith.

During the year we have received numerous contributions of books, magazines and flowers from our neighbors and friends, for which we are very grateful. We also received clothing from the Winchester Branch of the Needlework Guild of America; a large number of books from the Orleans Library; and a gift of 200 pounds of Christmas candy from Mr. D. W. Quimby, all of which we wish to make particular mention.

I wish to thank the employees for their loyalty and co-operation during the most trying year of this institution's existence.

In conclusion, I wish to express my thanks to the Board of Trustees for the support and advice which they have so kindly given me during the past year.

Respectfully submitted,

CARL C. MACCORISON,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1916: —

CASH ACCOUNT.

Balance Dec. 1, 1915, \$1,373 82

*Receipts.**Institution Receipts.*

Board of inmates: —

Private, \$1,653 75
Cities and towns, 26,964 36

\$28,618 11

Sales: —

Travel, transportation and office
expenses, \$32 26
Food, 10 85
Clothing and materials, 57 28
Furnishings and household sup-
plies, 32 41
Medical and general care, 41 81
Heat, light and power, 25

Farm and stable: —

Pigs, guinea, . . . \$25 40
Vegetables, . . . 3 98
Sundries, . . . 402 80

432 18

Repairs, ordinary, 26 79

633 83

Miscellaneous receipts: —

Interest on bank balances, \$126 81
Sundries, 42 04

168 85

29,420 79

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of 1915, \$2,949 59
Advance money (amount on hand November 30), 6,000 00
Approved schedules of 1916, 79,776 72

88,726 31

Special appropriations, 16,690 01

Total, \$136,210 93

Payments.

To treasury of Commonwealth, institution receipts,		\$29,420 79
Maintenance appropriations: —		
Balance November schedule, 1915,	\$4,323 41	
Eleven months' schedules, 1916,	79,776 72	
November advances,	5,796 27	
		<hr/> \$9,896 40
Special appropriations: —		
Approved schedules,	\$16,690 01	
November advances,	58 50	
		<hr/> 16,748 51
Balance, Nov. 30, 1916: —		
In bank,	\$51 16	
In office,	94 07	
		<hr/> 145 23
Total,		<hr/> \$136,210 93

MAINTENANCE.

Appropriation, current year,	\$91,500 00
Expenses (as analyzed below),	91,491 21
	<hr/>
Balance reverting to treasury of Commonwealth.	\$8 79

Analysis of Expenses.

Salaries, wages: —	
Carl C. MacCorison, M.D., superintendent,	\$2,500 00
General administration,	17,659 06
Medical service,	3,101 37
Ward service (male),	1,667 28
Ward service (female),	6,143 54
Repairs,	1,953 94
Farm and stable,	4,351 69
Grounds,	680 49
	<hr/> \$38,057 37
Religious instruction: —	
Catholic,	\$600 00
Jewish,	324 00
Protestant,	500 00
	<hr/> 1,424 00
Travel, transportation and office expenses: —	
Advertising,	\$11 75
Automobiles,	450 00
Automobile repairs and supplies,	40 27
Postage,	160 00
Printing and binding,	192 63
Stationery and office supplies,	357 37
Telephone and telegraph,	285 55
Travel,	246 23
Sundries,	6 65
Freight,	11 61
	<hr/> 1,762 06
Amount carried forward,	<hr/> \$41,243 43

<i>Amount brought forward,</i>		\$41,243 43
Food:—		
Butter,	\$2,587 10	
Butterine,	188 53	
Beans,	397 23	
Bread, crackers, etc.,	64 40	
Cereals, rice, meal, etc.,	420 98	
Cheese,	73 20	
Eggs,	2,158 54	
Flour,	1,089 65	
Fish (fresh, cured and canned),	1,182 47	
Fruit (fresh),	401 21	
Fruit (dried and preserved),	1,089 83	
Lard and substitutes,	176 70	
Macaroni and spaghetti,	25 17	
Meats,	8,949 43	
Milk (fresh and substitutes),	7,631 50	
Molasses and syrups,	32 21	
Peanut butter, pie filling, etc.,	20 35	
Potatoes,	1,449 63	
Seasonings and condiments,	234 52	
Sugar,	1,546 48	
Tea, coffee, cocoa, etc.,	466 94	
Vegetables (fresh),	235 13	
Vegetables (canned and dried),	628 03	
Yeast, baking powder, etc.,	130 10	
Sundries,	27 15	
Freight,	377 87	
		31,584 35
Clothing and materials:—		
Boots, shoes and rubbers,	\$37 67	
Clothing (outer),	100 63	
Clothing (under),	77 50	
Socks and small wares,	30	
Freight,	3 42	
		219 52
Furnishings and household supplies:—		
Beds, bedding, etc.,	\$405 32	
Carpets, rugs, etc.,	114 09	
Crockery, glassware, cutlery, etc.,	232 82	
Dry goods and small wares,	70 67	
Fire hose and extinguishers,	30 29	
Furniture, upholstery, etc.,	114 50	
Kitchen and household wares,	623 20	
Laundry supplies and materials,	381 60	
Lavatory supplies and disinfectants,	202 77	
Table linen, paper napkins, towels, etc.,	448 46	
Sundries,	37 85	
Freight,	32 35	
		2,693 92
Medical and general care:—		
Books, periodicals, etc.,	\$51 44	
Entertainments, games, etc.,	455 83	
Funeral expenses,	45 00	
<i>Amounts carried forward,</i>	\$552 27	\$75,741 22

<i>Amounts brought forward,</i>	\$552 27	\$75,741 22
Medical and general care — <i>Con.</i>		
Ice and refrigeration,	151 11	
Laboratory supplies and apparatus,	50 41	
Medicines (supplies and apparatus),	1,123 22	
Medical attendance (extra),	3 14	
Sputum cups, etc.,	499 95	
Tobacco, pipes, matches,	4 00	
Sundries,	31 40	
Freight,	30 10	
		2,445 60
Heat, light and power: —		
Coal,	\$3,242 65	
Freight on coal and other expenses,	2,435 98	
Gasoline,	56 48	
Oil,	82 98	
Operating supplies for boilers and engines,	245 46	
Freight,	6 65	
		6,070 20
Farm and stable: —		
Blacksmithing and supplies,	121 65	
Carriages, wagons and repairs,	73 06	
Fencing materials,	61 07	
Fertilizers,	639 01	
Grain, etc.,	1,170 45	
Hay,	353 12	
Harnesses and repairs,	36 08	
Other live stock,	119 00	
Labor (not on pay roll),	234 08	
Spraying materials,	90 04	
Stable and barn supplies,	51 56	
Tools, implements, machines, etc.,	151 78	
Trees, vines, seeds, etc.,	86 25	
Veterinary services, supplies, etc.,	90 98	
Sundries,	5 86	
Freight,	330 12	
		3,614 11
Grounds: —		
Fertilizers,	\$40 00	
Labor (not on pay roll),	123 50	
Rent,	240 00	
Road work and materials,	147 70	
Tools, implements, machines, etc.,	43 43	
Trees, vines, shrubs, seeds, etc.,	77 46	
Freight,	14 41	
		686 50
Repairs, ordinary: —		
Cement, lime, crushed stone, etc.,	118 25	
Electrical work and supplies,	255 18	
Hardware, iron, steel, etc.,	211 42	
Labor (not on pay roll),	54 85	
Lumber, etc. (including finished products),	271 83	
Paint, oil, glass, etc.,	273 96	
Plumbing and supplies,	187 72	
<i>Amounts carried forward,</i>	\$1,373 21	\$88,557 63

<i>Amounts brought forward,</i>		\$1,373 21	\$88,557 63
Repairs, ordinary — <i>Con.</i>			
Roofing and materials,	21 00		
Steam fittings and supplies,	30 48		
Tents, awnings, etc.,	3 00		
Tools, machines, etc.,	10 64		
Boilers, repairs,	185 87		
Engines, repairs,	90 94		
Sundries,	6 00		
Freight,	84 16		
Stove linings and materials,	53 92		
Repairing ammonia line,	277 77		
			2,136 99
Repairs and renewals: —			
Two houses for pullets,	\$45 66		
One small house for tools, etc.,	57 99		
Sheathing toilet rooms,	126 75		
One wooden summer house,	199 44		
Waterproofing toilet room floors,	248 40		
Moving-picture booth,	118 35		
			796 59
Total expenses for maintenance,			\$91,491 21

SPECIAL APPROPRIATIONS.

Appropriations for fiscal year,	\$28,045 00
Expended during the year (see statement annexed),	16,690 01
Balance Nov. 30, 1916,	\$11,354 99

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$145 23
November cash vouchers (paid from advance money): —	
Account of maintenance,	\$5,796 27
Account of special appropriations,	58 50
	5,854 77
Due from treasury of Commonwealth from available appropriation, account of November, 1916, schedules,	5,714 49
	\$11,714 49

Liabilities.

Schedule of November bills,	\$11,714 49
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PER CAPITA.

During the year the average number of inmates has been 200.34.
 Total cost for maintenance, \$91,491.21.
 Equal to a weekly per capita cost of \$8.782.
 Receipt from sales, \$633.83.
 Equal to a weekly per capita of \$0.0608.
 All other institution receipts, \$28,786.96.
 Equal to a weekly per capita of \$2.7632.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Improving power plant,	Acts 1916, chap. 114	\$21,880	\$11,829 33	\$11,829 33	\$10,050 67
Storehouse and root cellar,	Acts 1916, chap. 114	1,500	1,450 98	1,450 98	49 02
Medical building,	Acts 1916, chap. 114	4,665	3,409 70	3,409 70	1,255 30
		\$28,045	\$16,690 01	\$16,690 01	\$11,354 99

Respectfully submitted,

CARL C. MACCORISON,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate: —

Land, number of acres, 101.75, . . .	\$4,901 29	
Buildings,	130,656 98	
Total land and buildings, . . .	<u> </u>	\$135,558 27

Personal estate: —

Food,	\$5,569 46	
Clothing,	555 35	
Furnishings and household, . . .	25,173 84	
Heat, light and power,	3,062 87	
Repairs and improvements, . . .	3,602 54	
Farm and stable,	7,027 39	
Travel, etc.,	1,589 22	
Medical and general care,	4,508 02	
Grounds,	78 46	
Repairs,	3,603 54	
Total personal estate,	<u> </u>	51,168 15
Grand total,		<u> </u> \$186,726 42

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1908:—

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	113	87	200
Number received during the year,	148	125	273
Number discharged or died during the year,	149	124	273
Number at end of the fiscal year,	112	88	200
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	113.64	86.70	200.34
Average number of officers and employees during the year, .	44.95	34.21	79.16

Expenditures.

Current expenses:—

1. Salaries and wages,	\$38,057 37	
2. Clothing,	219 52	
3. Subsistence,	37,654 55	
4. Ordinary repairs and renewals,	2,933 58	
5. Office, domestic and outdoor expense,	12,626 19	
		\$91,491 21

Extraordinary expenses:—

1. Improving power plant,	\$11,829 33	
2. Storehouse and root cellar,	1,450 98	
3. Medical building,	3,409 70	
		16,690 01

Total,	\$108,181 22
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Summary of Current Expenses.

Total expenditures,	\$108,181 22
Deducting extraordinary expenses,	16,690 01
	<hr/>
	\$91,491 21
Deducting amount of sales,	633 83
	<hr/>
Total,	\$90,857 38

Dividing this amount by the daily average number of patients, 200.34, gives a cost for the year of \$453.51, equivalent to an average weekly net cost of \$8.697.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1915,	113	87	200
Number of patients admitted Dec. 1, 1915, to Nov. 30, 1916, inclusive.	148	125	273
Number discharged Dec. 1, 1915, to Nov. 30, 1916, inclusive,	149	124	273
Number of deaths (included in preceding item),	22	26	48
Number remaining in sanatorium Nov. 30, 1916,	112	88	200
Daily average number of patients,	113.64	86.70	200.34

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	74	65	139
Single,	70	51	121
Widowed,	4	6	10
Divorced,	—	3	3
Totals,	148	125	273

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	11	13	24
20 to 30 years,	51	51	102
30 to 40 years,	54	41	95
40 to 50 years,	22	16	38
Over 50 years,	10	4	14
Totals,	148	125	273

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	51	23	20	54	14	13	105	37	33
Other New England States, . . .	11	11	14	8	6	11	19	17	25
Other States,	6	3	2	2	1	4	8	4	6
Total native,	68	37	36	64	21	28	132	58	64
Other countries: —									
Austria,	—	—	—	1	1	1	1	1	1
Belgium,	2	2	2	—	—	—	2	2	2
Denmark,	—	1	1	—	—	—	—	1	1
Canada,	13	16	18	13	21	23	26	37	41
England,	3	5	6	2	5	4	5	10	10
Finland,	2	2	2	1	1	1	3	3	3
France,	—	—	—	—	1	—	—	1	—
Germany,	1	4	3	—	—	—	1	4	3
Greece,	3	2	3	5	5	4	8	7	7
Italy,	7	9	8	2	2	2	9	11	10
Ireland,	18	29	32	11	33	28	29	62	60
Newfoundland,	1	2	1	4	5	4	5	7	5
Norway,	1	—	1	—	—	—	1	—	1
Poland,	1	1	1	—	—	—	1	1	1
Portugal,	—	2	2	2	2	2	2	4	4
Russia,	17	18	18	15	18	15	32	36	33
Scotland,	2	6	5	4	5	5	6	11	10
Sweden,	1	3	1	1	4	3	2	7	4
Turkey,	8	8	8	—	—	—	8	8	8
Total foreign,	80	110	112	61	103	92	141	213	204
Unknown,	—	1	—	—	1	5	—	2	5
Grand total,	148	148	148	125	125	125	273	273	273

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Athol,	1	Malden,	19
Adams,	—	Marblehead,	2
Amesbury,	2	Medford,	6
Arlington,	3	Melrose,	5
Boston,	96	Milton,	1
Beverly,	7	Middleborough,	1
Cambridge,	3	North Reading,	1
Chelsea,	15	New Bedford,	2
Concord,	1	Newton,	1
Chelmsford,	1	North Andover,	1
Danvers,	6	Peabody,	6
Everett,	1	Revere,	6
Fitchburg,	2	Stoneham,	5
Framingham,	1	Salem,	2
Fisherville,	1	Somerville,	11
Gloucester,	2	Wakefield,	1
Hamilton,	1	Watertown,	1
Haverhill,	2	Winchester,	2
Hingham,	1	Wilmington,	1
Ipswich,	3	Woburn,	3
Lawrence,	4	Waverley,	2
Leominster,	3	Winthrop,	1
Lowell,	21	Westford,	1
Lynn,	10	Raynham,	1
Lynnfield,	2	Westborough,	1
Maynard,	1	Total,	273

TABLE 6. — *Occupation of Cases admitted.*

	Males.	Females.		Males.	Females.
Agent,	1	-	Milliner,	-	1
Baker,	1	-	Mill operator, . . .	7	6
Barber,	1	-	Miscellaneous, . . .	6	1
Bookkeeper,	2	1	Motorman,	2	-
Bricklayer,	1	-	Painter,	2	-
Bootblack,	1	-	Plasterer,	1	-
Boiler maker,	1	-	Peddler,	3	-
Comb polisher,	1	-	Printer,	1	-
Street railway conductor,	3	-	Saleslady,	-	1
Carpenter,	5	-	Salesman,	8	-
Chauffeur,	4	-	Shoemaker,	18	1
Cigar maker,	1	-	Steam fitter,	1	-
Clerk,	11	5	Stenographer,	-	2
Domestic,	-	22	Stonecutter,	3	-
Dentist,	2	-	Seamen,	4	-
Dressmaker,	-	1	Steam railway employee,	1	-
Electrician,	1	-	Student,	-	2
Engineer,	2	-	Telephone operator, . .	-	1
Factory worker,	5	10	Telegraph operator, . .	1	1
Fireman,	1	-	Tailor,	4	-
Housewife,	-	63	Teamster,	6	-
Iron molder,	1	-	Tanner,	2	-
Janitor,	1	-	Teacher,	1	-
Lawyer,	1	-	Waitress,	-	6
Laborer,	17	-	Waiter,	3	-
Laundress,	-	1	Watchman,	1	-
Machinist,	5	-	Woodworker,	1	-
Farmer,	1	-	Weaver,	2	-
			Totals,	148	125

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	3	7	10
Moderately advanced,	43	51	94
Advanced,	101	67	168
Non-tuberculous,	—	—	—
Not determined,	1	—	1
Totals,	148	125	273

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	14	9	23
Apparently arrested,	10	16	26
Quiescent,	18	23	41
Improved,	47	29	76
Unimproved,	22	11	33
Died,	22	26	48
Not considered,	14	10	24
Non-tuberculous,	2	—	2
Totals,	149	124	273

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month,	—	—	—	2	2	4
1 to 2 months,	—	—	—	4	1	5
2 to 3 months,	—	—	—	3	2	5
3 to 4 months,	—	—	—	—	4	4
4 to 5 months,	—	—	—	1	3	4
5 to 6 months,	1	—	1	1	2	3
6 to 7 months,	1	—	1	—	—	—
7 to 8 months,	1	1	2	—	2	2
8 to 9 months,	1	1	2	3	1	4
9 to 10 months,	—	1	1	1	—	1
10 to 12 months,	—	1	1	1	2	3
12 to 18 months,	5	3	8	1	3	4
18 to 24 months,	1	6	7	3	—	3
Over 2 years,	12	13	25	2	4	6
Totals,	22	26	48	22	26	48

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis,	17	25	42
Tuberculosis, secondary nephritis,	1	—	1
Pulmonary hemorrhage, secondary tuberculosis,	1	—	1
Lobar pneumonia, secondary tuberculosis,	1	—	1
Tuberculous peritonitis, secondary pulmonary tuberculosis,	1	—	1
Post hemorrhagic pneumonia, secondary tuberculosis,	—	1	1
Tuberculous meningitis, secondary tuberculosis,	1	—	1
Totals,	22	26	48

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D.,	.	.	.	.	.	<i>Superintendent.</i>
EDSON W. GLIDDEN, M.D.,	.	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
GEORGE M. SULLIVAN, M.D.,	.	.	.	.	.	<i>Physician.</i>

MRS. ELLA M. KELLEY,	.	.	.	.	.	<i>Matron.</i>
LESTON P. GIDDINGS,	.	.	.	.	.	<i>Steward.</i>
WILLIAM R. RAY,	.	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM G. ATKINSON,	.	.	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1916.

The year 1916 opened with 260 patients in the sanatorium, and during the year 425 were admitted, a total of 685 patients cared for. This is a decrease of 17 as compared with 1915. A daily average of 263 patients was maintained throughout the year.

The total days of treatment for 1916 was, however, 96,192, an increase of 2,379 over 1915.

The condition of patients on admission has not improved, incipient cases being less than 1 per cent. of the total, moderately advanced, 44 per cent., and advanced, 54 per cent. One case was probably not tuberculous, 4 were not classified, and 2 had not been examined on November 30. The daily average number of bed patients was 71, an increase of 9 over last year.

Of 434 patients discharged during the year 2, or one-half per cent., were arrested, 26, or 6 per cent., were apparently arrested, and 20, or 5 per cent., were quiescent, — a slight improvement on the percentages of 1915.

The longest stay of the 434 patients discharged was 1,254 days, the shortest, 1 day, the average, 213 days, — an increase of 36.1 days over the average of 1915.

The geographical distribution of cases admitted shows an interesting change. Boston continues to send over 50 per cent. of all our cases, while Brockton cases have fallen 1 per cent. Fall River has increased 1 per cent., New Bedford has fallen from 3 to less than 1 per cent., Quincy has increased from less than 3 to over 4 per cent., and Taunton has fallen from 3 to less than 1 per cent.

The proportion of cases supported by private funds has fallen from 6 to 5 per cent. Town cases have increased from

50 per cent. of the total to 53 per cent., and State cases from 32 to 33 per cent. Settlements of 9 per cent. were unknown at the end of the year.

While gain in weight does not always indicate improvement in the pulmonary condition, it is usually the first encouraging sign noticed by patients, and usually improves the physician's estimate of his case. During the year 226 patients gained an average of 12.19 pounds, one man gaining $37\frac{1}{2}$ pounds, and one woman $39\frac{1}{2}$.

MEDICAL REPORT.

The routine hygienic treatment of former years has been continued, and 9 patients have received tuberculin.

A new feature of the medical work at the sanatorium is the increase in the out-patient work which has been carried on by the sanatorium physicians.

Co-operating with the Doctors' Club, the board of health, the Women's Club, the District Nursing Association and the clergymen, all of Middleborough, the sanatorium physicians have done the examining at the tuberculosis clinic at the office of the board of health.

Of a total of 69 patients examined at the clinic 3 were in an incipient stage of tuberculosis, 7 moderately advanced and 2 advanced. There were also 18 suspicious cases which are to report at the clinic for observation.

The sanatorium has cared for 7 Middleborough cases during the year, and at present writing 3 members of one Middleborough family are now in the sanatorium, or to arrive soon. In addition to the 69 clinic cases, 18 out-patients were examined at the institution, most of whom were referred by outside physicians.

LABORATORY REPORT.

A total of 2,631 sputum examinations were made during the year, of which 1,084 were positive and 1,547 negative. Seven hundred and thirty-one urinalyses showed 11 cases of nephritis and one of diabetes mellitus.

Examinations of plural effusions were made in 9 cases.

DISCIPLINE.

There have been fewer cases of breach of discipline during the past year than in any year since the institution was opened, and a healthier mental attitude toward treatment. The efforts of the Holy Name Society to inspire in the patients a spirit of co-operation with the sanatorium administration have accomplished much toward self-discipline among the men.

WORK PERFORMED.

The problem of finding regular occupation of the right kind for convalescent patients is as perplexing as ever, and the rebellious spirit which shows up when trifling duties are assigned does not soften as the sanatorium grows older.

Considerable valuable work is accomplished while novelty and friendly competition last, but *regular* duties, however slight, are odious to the average patient. Our patients have given considerable assistance in gathering fruit and vegetables, and preparing them for the kitchen, or for canning, and the daily routine work in the dining room and wards. The outside work performed by patients represents 2,860 work hours; the routine work in wards and dining room, 34,148 hours.

RELIGIOUS SERVICES.

The religious services at the sanatorium have been held as usual, with the same clergymen in attendance as last year.

IMPROVEMENTS.

The completion of the coal trestle has brought great relief from the stress and drive of receiving coal as in former years, and is also saving much time in carting other carload supplies.

The cost of construction was \$500 more than the appropriation because the New Haven Railroad, in performing its part of the work, exceeded its original estimate by approximately that amount.

The above sum was transferred from the contingent fund by authority of the Governor and Council.

As soon as the appropriations for the coal trestle and dairy were approved by the Governor and Council, work was begun on the construction of both, and also on preparing as much land as possible for planting, with the intention of putting in cows and producing our own milk supply at the earliest possible date.

The new barn was usable on October 15, and since that date no milk has been purchased.

The trestle and barn were built by institution workmen.

In the early part of the year married quarters for four couples were finished and equipped for occupancy over the paint shop.

A 15-ton wagon scale was installed at the dairy farm, and an asphalt floor was laid throughout the bath and locker rooms of the men's pavilion.

FARM.

As no work could be done on land not yet purchased, the Governor's approval of our dairy project in May found us several weeks behindhand with our preliminary farming operations.

Work was rushed to prepare land for planting and to fertilize hay land just purchased, with the result that autumn found us with 75 tons of excellent hay and 260 tons of unusually good silage, besides a few mangels and the usual garden crops for the institution.

The poultry department has made a good showing, in spite of a heavy mortality among the young chicks and the increased cost of grain. The egg production was more than twice that of 1915, and the fowl and chickens were of finer quality.

RECOMMENDATIONS.

Addition to the Power Plant and Laundry. — During the past two winters the boiler room has been taxed to the limit of its capacity to maintain ordinary running conditions. A breakdown of one boiler in cold weather would seriously cripple the institution, as the other boiler could not possibly do the work alone.

The 4-ton refrigerating engine, which has worked unaided continuously for six years, was unable to maintain the neces-

sary refrigeration during the past summer, and one or two minor accidents have emphasized the need of a machine of greater capacity.

The laundry machinery, which was secondhand when originally installed, is worn out and of insufficient capacity, and the room for laundry work is inadequate.

I recommend an addition to the building, in accordance with plans already submitted, the installation of a 100-horsepower boiler, a 10-ton refrigerating engine, and the enlargement and equipment of the laundry commensurate with our need.

The estimated cost of the improvements recommended is \$27,722.18.

General Storehouse. — A general storehouse is recommended, the lower portion of which should be of fireproof construction, to centralize the storage of supplies now scattered about in several buildings, to reduce fire hazard, and to facilitate handling and distribution. The cost of this building is estimated at \$5,000.

Pavilion for 20 Patients. — The need of a small pavilion to permanently house 20 patients hitherto cared for in tents is more urgent than ever before, as the tents are badly worn and can be used only in summer. It is estimated that a suitable building can be built for \$3,000.

Improvements at the Dairy Farm. — It is quite necessary that certain improvements should be made in the farmhouse, and old barns purchased with land for dairy.

The house is now occupied by two families and four single men, although it is hardly habitable in cold weather. If properly repaired it will accommodate four additional single men, and cannot be duplicated for less than \$6,000. An expenditure of \$2,000 is recommended to repair and paint the house, install three bathrooms, electric wiring, a heater, cess-pool and drainage.

The original estimate for the cow barn was cut \$1,300, so that several necessary changes in the head barn could not be made last year. An expenditure of \$1,000 is recommended for the painting and repair of barn, and the construction of a storage room for roots.

MEDICAL SERVICE.

No change has taken place in the medical staff during the year.

ACKNOWLEDGMENT.

It is gratifying to again record the loyal co-operation of my co-workers during the past year, and to express appreciation of the many evidences that this sanatorium is year by year gaining a stronger hold upon the respect and the kindly thought of the community. A noticeable improvement in the mental attitude of patients toward the institution is, I believe, directly attributable to the faithful and judicious attentions of our chaplains, and to the stability of the administrative policy of your Board.

Respectfully submitted,

SUMNER COOLIDGE,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1916: —

CASH ACCOUNT.		
Balance Dec. 1, 1915,		\$656 38
<i>Receipts.</i>		
<i>Institution Receipts.</i>		
Board of inmates: —		
Private,	\$2,757 69	
Cities and towns,	32,006 08	
Other reimbursements, charitable (collected by State Treasurer),	114 29	
		\$34,878 06
Sales: —		
Food,	\$782 24	
Clothing and materials,	28 05	
Furnishings and household supplies,	84 35	
Medical and general care,	11 50	
Heat, light and power,	6 00	
Farm and stable: —		
Pigs and hogs,	\$239 00	
Wood,	5 56	
Vegetables,	168 83	
Sundries,	141 17	
	554 56	
		1,466 70
Miscellaneous receipts: —		
Interest on bank balances,	\$157 79	
Sundries,	64 90	
		222 69
		36,567 45
Refund, account of 1915 appropriation,		1 50
<i>Receipts from Treasury of Commonwealth.</i>		
Maintenance appropriations: —		
Balance of 1915,	\$3,303 38	
Advance money (amount on hand November 30),	7,000 00	
Approved schedules of 1916,	\$112,881 31	
Less returned,	34	
	112,880 97	
		123,184 35
Special appropriations,		25,665 17
Total,		\$186,074 85

Payments.

To treasury of Commonwealth, institution receipts,		\$36,567 45
Maintenance appropriations: —		
Balance November schedule, 1915,	\$3,959 76	
Eleven months' schedules, 1916,	112,880 97	
November advances,	5,679 62	
		<hr/>
		122,520 35
Refund, account of 1915 appropriation,		1 50
Special appropriations: —		
Approved schedules,		25,665 17
Balance, Nov. 30, 1916: —		
In bank,	\$1,115 14	
In office,	205 24	
		<hr/>
		1,320 38
		<hr/>
Total,		\$186,074 85

MAINTENANCE.

Appropriation, current year,	\$120,700 00
Expenses (as analyzed below),	120,698 32
	<hr/>
Balance reverting to treasury of Commonwealth,	\$1 68

Analysis of Expenses.

Salaries, wages: —		
Sumner Coolidge, M.D., superintendent,	\$2,500 00	
General administration,	23,827 38	
Medical service,	2,933 33	
Ward service (male),	3,136 13	
Ward service (female),	4,337 55	
Repairs,	3,023 86	
Farm and stable,	6,618 57	
Grounds,	2,601 12	
		<hr/>
		\$48,977 94
Religious instruction: —		
Catholic,	\$600 00	
Jewish,	175 60	
Protestant,	470 00	
		<hr/>
		1,245 60
Travel, transportation and office expenses: —		
Automobile repairs and supplies,	\$646 83	
Postage,	205 00	
Printing and binding,	309 83	
Stationery and office supplies,	254 76	
Telephone and telegraph,	211 05	
Travel,	677 72	
Sundries,	4 20	
Freight,	18 80	
		<hr/>
		2,328 19
Food: —		
Butter,	\$2,857 63	
Butterine,	43 66	
Beans,	150 06	
		<hr/>
Amounts carried forward,	\$3,051 35	\$52,551 73

<i>Amounts brought forward,</i>	\$3,051 35	\$52,551 73
Food — Con.		
Bread, crackers, etc.,	82 39	
Cereals, rice, meal, etc.,	390 88	
Cheese,	97 25	
Eggs,	604 94	
Flour,	1,349 13	
Fish (fresh, cured and canned),	1,436 02	
Fruit (fresh),	524 87	
Fruit (dried and preserved),	513 00	
Lard and substitutes,	296 63	
Macaroni and spaghetti,	18 34	
Meats,	11,594 27	
Milk (fresh and substitutes),	9,155 11	
Molasses and syrups,	75 46	
Peanut butter, pie filling, etc.,	2 35	
Potatoes,	336 30	
Seasonings and condiments,	433 85	
Sugar,	1,917 28	
Tea, coffee, cocoa, etc.,	427 55	
Vegetables (fresh),	39 64	
Vegetables (canned and dried),	748 14	
Yeast, baking powder, etc.,	99 12	
Freight,	239 81	
		33,433 68
Clothing and materials: —		
Boots, shoes and rubbers,	\$8 45	
Freight,	44	
		8 89
Furnishings and household supplies: —		
Beds, bedding, etc.,	\$637 10	
Carpets, rugs, etc.,	98 01	
Crockery, glassware, cutlery, etc.,	625 78	
Dry goods and small wares,	46 15	
Fire hose and extinguishers,	51 49	
Furniture, upholstery, etc.,	351 58	
Kitchen and household wares,	1,264 70	
Laundry supplies and materials,	948 87	
Lavatory supplies and disinfectants,	528 07	
Table linen, paper napkins, towels, etc.,	282 19	
Sundries,	13 00	
Freight,	98 29	
		4,945 23
Medical and general care: —		
Books, periodicals, etc.,	\$43 65	
Entertainments, games, etc.,	80 71	
Funeral expenses,	90 80	
Ice and refrigeration,	31 74	
Laboratory supplies and apparatus,	79 75	
Medicines (supplies and apparatus),	1,381 05	
Medical attendance (extra),	31 00	
Sputum cups, etc.,	510 09	
Tobacco, pipes, matches,	3 72	
Freight,	20 68	
		2,273 19
<i>Amount carried forward,</i>		\$93,212 72

<i>Amount brought forward,</i>		\$93,212 72
Heat, light and power: —		
Coal,	\$6,464 14	
Freight on coal and other expenses,	1,051 99	
Oil,	244 30	
Operating supplies for boilers and engines,	203 73	
Freight,	5 24	
		7,969 40
Farm and stable: —		
Bedding materials,	\$79 07	
Blacksmithing and supplies,	202 58	
Carriages, wagons and repairs,	230 66	
Dairy equipment and supplies,	139 55	
Fencing materials,	43 81	
Fertilizers,	2,075 62	
Grain, etc.,	5,183 34	
Hay,	23 92	
Harnesses and repairs,	129 24	
Horses,	290 00	
Other live stock,	614 60	
Labor (not on pay roll),	169 61	
Rent,	344 13	
Spraying materials,	138 14	
Stable and barn supplies,	63 82	
Tools, implements, machines, etc.,	948 02	
Trees, vines, seeds, etc.,	451 55	
Veterinary services, supplies, etc.,	116 66	
Sundries,	158 19	
Freight,	109 61	
Teaming,	496 67	
		12,008 79
Grounds: —		
Fertilizers,	\$452 80	
Tools, implements, machines, etc.,	73 08	
Trees, vines, shrubs, seeds, etc.,	362 40	
Freight,	43 00	
Teaming,	8 33	
		939 61
Repairs, ordinary: —		
Cement, lime, crushed stone, etc.,	\$80 94	
Electrical work and supplies,	367 10	
Hardware, iron, steel, etc.,	415 59	
Labor (not on pay roll),	181 19	
Lumber, etc. (including finished products),	735 00	
Paint, oil, glass, etc.,	444 79	
Plumbing and supplies,	881 77	
Roofing and materials,	169 93	
Steam fittings and supplies,	697 18	
Tents, awnings, etc.,	176 48	
Tools, machines, etc.,	474 30	
Boilers, repairs,	233 10	
Dynamos, repairs,	42 40	
Engines, repairs,	229 02	
Freight,	71 74	
		5,200 53
<i>Amount carried forward</i>		\$119,331 05

<i>Amount brought forward,</i>		\$119,331 05
Repairs and renewals: —		
New wagon scale,	\$399 72	
New paint shop,	651 83	
New lumber shed,	127 57	
New henhouses,	189 65	
		<hr/> 1,368 77
Total expenses for maintenance.	\$120,699 82	
Less refund, account of 1915 expenses,	1 50	
		<hr/> \$120,698 32

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1915,	\$144 96
Appropriations for fiscal year,	25,800 00
	<hr/>
Total,	\$25,944 96
Expended during the year (see statement annexed),	25,665 17
	<hr/>
Balance Nov. 30, 1916,	\$279 79

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,320 38
November cash vouchers (paid from advance money), account of maintenance,	5,679 62
Due from treasury of Commonwealth from available appropriation, account of November, 1916, schedule,	818 85
	<hr/>
	\$7,818 85

Liabilities.

Schedule of November bills,	\$7,818 85
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PER CAPITA.

During the year the average number of inmates has been 262.82.
 Total cost for maintenance, \$120,698.32.
 Equal to a weekly per capita cost of \$8.8317.
 Receipt from sales, \$1,466.70.
 Equal to a weekly per capita of \$0.1073.
 All other institution receipts, \$35,100.75.
 Equal to a weekly per capita of \$2.5684.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Laboratory,	Res. 1913, chap. 133	\$1,000	\$144 96	\$1,000 00	—
Purchase of land and dairy equipment,	Res. 1916, chap. 110	20,300	20,047 05	20,047 05	\$252 95
Coal trestle,	Res. 1916, chap 110	5,500 ¹	5,473 16	5,473 16	26 84
		\$26,800	\$25,665 17	\$26,520 21	\$279 79

¹ \$500 transferred from extraordinary expenses.

Respectfully submitted,

SUMNER COOLIDGE,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate:—

Land, number of acres, 204,	\$17,444 37
Buildings,	132,775 82
Power plant, laundry, machinery, heating, water and sewerage systems, and improvements,	37,472 34
	<hr/>
Total real estate,	\$187,692 53

Personal estate:—

Travel, transportation, etc.,	\$2,326 20
Food,	4,481 31
Clothing, etc.,	173 49
Furnishings, etc.,	28,429 65
Medical and general care,	2,779 56
Farm and stable,	19,506 44
Grounds,	109 42
Heat, light and power,	537 92
Repairs, ordinary,	4,935 78
	<hr/>
Total personal estate,	\$63,279 77

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	175	85	260
Number received during the year,	280	145	425
Number discharged or died during the year,	288	146	434
Number at end of fiscal year,	167	84	251
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	177	86	263
Average number of officers and employees during the year, .	70	24	94

Expenditures.

Current expenses: —

1. Salaries and wages,	\$48,977 94
2. Clothing,	8 89
3. Subsistence,	33,433 68
4. Ordinary repairs and improvements,	5,200 53
5. Office, domestic and outdoor expenses,	33,078 78
Total,	\$120,699 82

Extraordinary expenses: —

1. New buildings, land, etc.,	\$25,520 21
2. Permanent improvements to existing buildings and grounds,	144 96

Total, \$25,665 17

Grand total, \$146,364 99

Summary of Current Expenses.

Total expenditures,	\$146,364 99
Deducting extraordinary expenses,	25,665 17
	<hr/>
	\$120,699 82
Deducting amount of sales,	1,466 70
	<hr/>
	\$119,233 12

Dividing this amount by the daily average number of patients, 262.82, gives a cost for the year of \$453.67, equivalent to an average weekly net cost of \$8.72.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1915, to Nov. 30, 1916, inclusive.	280	145	425
Number of patients discharged Dec. 1, 1915, to Nov. 30, 1916, inclusive.	288	146	434
Number of deaths (included in preceding item),	66	35	101
Number remaining in sanatorium Nov. 30, 1916,	167	84	251
Daily average number of patients,	177	86	263
Daily average number of bed patients Dec. 1, 1915, to Nov. 30, 1916.	43	28	71

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	123	82	205
Single,	146	58	204
Widowed,	10	5	15
Divorced,	1	—	1
Totals,	280	145	425

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	1	1
14 to 20 years,	21	24	45
20 to 30 years,	98	47	145
30 to 40 years,	77	42	119
40 to 50 years,	58	23	81
Over 50 years,	26	8	34
Totals,	280	145	425

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States:—									
Massachusetts,	114	29	31	43	10	14	157	39	45
Other New England States,	6	8	7	8	6	2	14	14	9
Other States,	8	6	8	4	5	4	12	11	12
Total native,	128	43	46	55	21	20	183	64	66
Other countries:—									
Albania,	2	2	2	—	—	—	2	2	2
Austria,	4	5	4	7	7	7	11	12	11
Azores,	1	1	1	1	1	1	2	2	2
Canada,	23	26	29	17	23	24	40	49	53
Cape Verde,	—	—	—	1	—	—	1	—	—
China,	1	1	1	—	—	—	1	1	1
Denmark,	—	—	—	1	1	1	1	1	1
England,	7	12	11	3	5	6	10	17	17
Finland,	5	6	6	2	3	3	7	9	9
France,	—	—	—	—	—	1	—	—	1
Germany,	1	6	3	1	3	3	2	9	6
Greece,	5	5	5	—	—	—	5	5	5
Hungary,	1	1	1	—	—	—	1	1	1
Ireland,	26	78	80	18	35	35	44	113	115
Italy,	14	15	15	2	3	3	16	18	18
Mexico,	1	1	1	—	—	—	1	1	1
Newfoundland,	2	2	2	—	—	—	2	2	2
Norway,	—	—	1	1	1	1	1	1	2
Portugal,	2	3	2	—	1	1	2	4	3
Rumania,	1	1	1	1	1	1	2	2	2
Russia,	41	45	44	23	25	23	64	70	67
Scotland,	4	9	8	2	3	4	6	12	12
Sweden,	3	5	3	7	7	7	10	12	10
Switzerland,	—	—	1	—	—	—	—	—	1
Syria,	6	6	6	2	1	2	8	7	8
Turkey,	2	2	2	1	1	1	3	3	3
Wales,	—	—	—	—	1	—	—	1	—
West Indies,	—	1	—	—	—	—	—	1	—
Total foreign,	152	233	229	90	122	124	242	355	353
Unknown,	—	4	5	—	2	1	—	6	6
Grand total,	280	280	280	145	145	145	425	425	425

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Number.	CITIES AND TOWNS.	Number.
Abington,	1	Millis,	1
Agawam,	1	Milton,	1
Arlington,	1	Natick,	1
Athol,	1	New Bedford,	4
Attleboro,	4	Newburyport,	1
Boston,	219	Newton,	3
Braintree,	1	North Attleborough,	6
Brookton,	18	Northbridge,	2
Brookline,	2	Norwood,	3
Cambridge,	6	Peabody,	3
Chelsea,	10	Plymouth,	2
Chicopee,	1	Provincetown,	1
Dedham,	2	Quincy,	20
Deerfield,	1	Revere,	3
Easton,	3	Rockland,	1
Fairhaven,	1	Shrewsbury,	1
Fall River,	25	Somerville,	2
Fitchburg,	1	Southbridge,	1
Framingham,	6	Stoughton,	4
Franklin,	2	Taunton,	4
Hanover,	1	Uxbridge,	1
Hingham,	1	Walpole,	1
Hudson,	1	Waltham,	1
Lawrence,	1	Wareham,	1
Leominster,	1	Waverley,	1
Lowell,	1	Webster,	3
Lynn,	3	Wellesley,	1
Marlborough,	3	Westborough,	1
Malden,	6	West Springfield,	1
Maynard,	1	Weymouth,	3
Medfield,	1	Whitman,	1
Medway,	2	Winchester,	1
Melrose,	1	Worcester,	6
Middleborough,	7	Yarmouth,	1
Milford,	2	Total,	425

TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Actor,	1	-	1	Harness maker,	1	-	1
Advertising solicitor,	1	-	1	Hospital maid,	-	2	2
Baker,	3	-	3	House decorator,	1	-	1
Barber,	3	-	3	Housekeeper,	-	7	7
Bill poster,	1	-	1	Housewife,	-	66	66
Blacksmith,	1	-	1	Janitor,	2	-	2
Bookkeeper,	1	-	1	Jeweller,	1	-	1
Bookbinder,	2	-	2	Laborer,	20	-	20
Bottler,	2	-	2	Laundress,	-	1	1
Brakeman,	2	-	2	Letter carrier,	1	-	1
Bricklayer,	1	-	1	Longshoreman,	3	-	3
Candy maker,	1	2	3	Lumber surveyor,	1	-	1
Carpenter,	12	-	12	Machinist,	12	-	12
Cashier,	-	1	1	Messenger,	1	1	2
Chauffeur,	4	-	4	Musician,	1	-	1
Chef,	5	-	5	None,	1	2	3
Cigarette maker,	1	-	1	Nurse,	1	3	4
Circus man,	2	-	2	Operative,	47	19	66
Civil engineer,	1	-	1	Optician,	1	-	1
Clerk,	10	2	12	Painter,	9	-	9
Cobbler,	1	-	1	Peddler,	3	1	4
Conductor,	1	-	1	Pharmacist,	1	-	1
Crane operator,	1	-	1	Plasterer,	1	-	1
Domestic,	4	23	27	Plumber,	2	-	2
Electrician,	2	-	2	Porter,	3	-	3
Elevator man,	3	-	3	Printer,	6	1	7
Engineer,	2	-	2	Railroad man,	4	-	4
Engraver,	2	-	2	Sailor,	2	-	2
Expressman,	1	-	1	Salesman,	9	1	10
Farmer,	5	-	5	Saw filer,	1	-	1
Fireman,	2	-	2	Seamstress,	-	4	4
Fisherman,	2	-	2	Shipyard man,	2	-	2
Foreman,	1	-	1	Shipper,	1	-	1
Fruit buyer,	1	-	1	Shoemaker,	10	-	10
Grocer,	3	-	3	Soap maker,	1	-	1

TABLE 6. — *Occupations — Concluded.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Solderer,	-	1	1	Teamster,	7	-	7
Stage hand,	1	-	1	Telephone operator,	-	2	2
Stenographer,	-	2	2	Tinsmith,	1	-	1
Stonecutter,	6	-	6	Waiter,	10	1	11
Student,	4	1	5	Watchman,	1	-	1
Tailor,	14	1	15	Wood caulker,	1	-	1
Teacher,	1	1	2	Totals,	280	145	425

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	-	2	2
Moderately advanced,	150	36	186
Advanced,	127	103	230
Probably non-tuberculous,	-	1	1
Not classified,	2	2	4
Not examined,	1	1	2
Totals,	280	145	425

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Arrested,	2	-	2	$\frac{1}{2}$
Apparently arrested,	14	12	26	6
Quiescent,	15	5	20	5
Progressive,	2	-	2	$\frac{1}{2}$
Improved,	100	53	153	35
Unimproved,	40	25	65	15
Died,	66	35	101	23
Not considered,	49	15	64	
Probably non-tuberculous,	-	1	1	-
Totals,	288	146	434	100

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			LENGTH OF RESIDENCE IN SANATORIUM.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under 1 month, . . .	—	—	—	6	4	10
1 to 2 months, . . .	—	—	—	8	2	10
2 to 3 months, . . .	—	—	—	7	5	12
3 to 4 months, . . .	—	—	—	4	4	8
4 to 5 months, . . .	—	—	—	1	1	2
5 to 6 months, . . .	—	2	2	4	1	5
6 to 7 months, . . .	—	—	—	2	1	3
7 to 8 months, . . .	3	1	4	2	2	4
8 to 9 months, . . .	—	2	2	4	2	6
9 to 10 months, . . .	2	2	4	5	2	7
10 to 12 months, . . .	4	1	5	1	3	4
12 to 18 months, . . .	11	11	22	11	5	16
18 to 24 months, . . .	10	3	13	7	1	8
Over two years, . . .	28	13	41	4	2	6
Unknown, . . .	8	—	8	—	—	—
Totals, . . .	66	35	101	66	35	101

TABLE 10. — *Cause of Death.*

	Males.	Females.	Totals.
Phthisis pulmonalis,	65	35	100
Sarcoma of lungs,	1	—	1
Totals,	66	35	101

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK M.D.,	.	.	<i>Superintendent.</i>
ROY MORGAN, M.D.,	.	.	<i>Assistant Superintendent and Physician.</i>
J. J. COSGROVE, M.D.,	.	.	<i>Physician.</i>

ANNIE S. RATHBONE,	.	.	<i>Superintendent of Nurses</i>
HERBERT W. SMITH,	.	.	<i>Steward.</i>
BENJAMIN J. SANDIFORD,	.	.	<i>Chief Engineer.</i>
FRANK J. CLEGG,	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the seventh annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1916.

DAYS OF TREATMENT.

There have been 96,550 days of treatment given by the sanatorium the past year, which is 2,085 more than provided in 1915.

NUMBER TREATED.

The number admitted has been 282. The admissions plus the number remaining under treatment Nov. 30, 1915, makes a total of 550 cared for during the year. The daily average number of patients has increased from 258.81 to 263.78. Notwithstanding this larger average, we cared for 46 fewer patients than the previous year, as the average stay per patient was considerably increased.

CLASSIFICATIONS.

The classification for the past two years has been almost the same, — 1915, incipient, 25 per cent., moderately advanced, 26 per cent., advanced, 49 per cent.; 1916, incipient, 26 per cent., moderately advanced, 24 per cent., advanced, 50 per cent. Nearly all the incipient, and most of the moderately advanced, cases were children. The adults admitted were nearly all advanced cases. Our patients on an average have been of this type, and have required longer bed treatment. Our daily average number of bed patients has been 72.69 as compared with 63.5 the year before. Sixteen per cent. of the children under twelve years of age, 29 per cent. of males over twelve, and 34 per cent. of females over twelve were bed patients. As com-

pared with the year before, these figures show that 4 per cent. more children, 8 per cent. more men and 3 per cent. less women were bed patients this year. The increased number of such children is due in a great measure to an epidemic of diphtheria. The men admitted this year have been very largely advanced, progressive cases. The number of deaths has been 55, — two more than a year ago; 5 died within one month after admission, 9 were here between one and three months, 11 between three and six months. This makes a total of 25 patients who lived less than six months after admission. These deaths occurred in adult cases, and, as we only admitted 176 above the age of fourteen years, it shows the serious condition of a large percentage of these patients when they reach the sanatorium.

LENGTH OF RESIDENCE.

The average length of stay again shows an increase, as has been the case each previous year. In 1911 it was only 145 days. This year it has been 338. I hope to see the time when each patient will have an average period of treatment of at least one year. This seems to be the necessary minimum of practically all the favorable cases admitted to Westfield.

SUPPORT OF PATIENTS.

Of the 282 admitted 26 paid their own board, 175 were supported by cities and towns, 54 were State charges, and the status of 27 has not yet been determined. The number of those who paid their own board was one less than a year ago. The amount paid by them was \$3,365.99, which is \$185.06 less collected from private patients than the previous year. The gross cost of maintenance per week has been \$9.27 $\frac{1}{2}$, an increase of 11 $\frac{1}{2}$ cents over last year. Deducting sales, the per capita cost equals \$9.13 $\frac{1}{2}$. If it had not been for the breakdown of our refrigerating machine, and the necessity of installing a larger and more complete plant, for which expense the Governor and Council granted \$3,500, we would have had a less maintenance cost than 1915.

GAIN IN WEIGHT.

Of the patients discharged, 185 gained in weight. The average gain per patient was $9\frac{1}{2}$ pounds; 99 failed to gain or lost weight.

CONDITION ON DISCHARGE.

Of the 284 patients discharged, 37.6 per cent. were apparently arrested, 14 per cent. quiescent, $10\frac{1}{2}$ per cent. improved, 13 per cent. unimproved, 19.3 per cent. died, and 16 patients, or 5.6 per cent., were not considered, as they remained less than thirty days.

DIPHTHERIA.

Although about half of our patients are children, we have hitherto been extremely fortunate in not having been troubled with epidemics of the contagious diseases of children. This year 6 children and 1 laundry employee developed diphtheria; 2 became ill in August, 2 in September and 3 in October. An interesting condition was found by taking cultures from the throats of all the apparently well children. Seven of them were found to have positive cultures but no clinical symptoms. In October cultures were taken from all the girls who were exposed, which revealed 9 more carriers. In November cultures were taken from the noses of the girls who had previously had negative throat cultures, and 11 of them were found to be positive. By isolation of the positive cases and repeated immunizing of the infected patients the disease was kept from spreading to the other wards, and the last patient was released from quarantine November 29. The first child to become ill with diphtheria was the only one that died. The others made prompt recovery, and neither the intercurrent illness nor the antitoxin administered apparently had any deleterious effect on the patient.

CAFETERIA.

Last winter we installed a cafeteria equipment, and made an opening in the wall between the kitchen and the patients' dining room, so that a convenient counter for self-service could be installed. The expense of these changes amounted to about

\$2,000. The cafeteria was opened March 31. Since then all the ambulatory patients above twelve years of age, averaging about 120 in number, have had their meals served in this way. The patients have been well pleased with the change. They have made no complaints about the food or service since this method was introduced. We are able to give them more variety in food and serve it in a more appetizing manner. There has been very little saving in labor because more employees have been needed in the kitchen, and the higher grade of service has necessitated higher wages. This increase offset the saving made by discontinuing waiter service. We have, however, effected a marked saving in food cost by lessening the table waste about 33 per cent. The patients are given a wider range of food to choose from, and they select from the bill of fare only those things that they like to eat. The table waste is thus reduced to the smallest possible quantity. There has been a decrease of about 5 cents in the daily per capita food cost, although food prices have averaged much higher than a year ago. Our employees have been on a cafeteria service since April, 1915. It proved so satisfactory with them that we felt justified in going to a considerable expense in installing a more complete equipment for the patients. It is an experiment in institution feeding which, so far as we are aware, is original with this sanatorium. Much of the credit for the excellent arrangement of the equipment and success of the plan is due to the careful study and constant supervision of H. W. Smith, the steward.

SANATORIUM SCHOOL.

The new school building was occupied soon after December 1. We were very fortunate in being able to get Miss Avis Waterbury, who for ten years had been supervisor of arts and crafts in the Westfield public schools, to resign from that position to come to the sanatorium as principal of the school and teacher of the crafts work. She has been very successful in organizing the school on an efficient basis. The standard of the grade work now corresponds with that done in public schools. The children attend one-half day sessions, but in that period are able to advance in the essential studies as rapidly as they would have done had they remained in their home school.

Grade 1,	21.68
Grade 2,	11.22
Grade 3,	17.29
Grade 4,	13.86
Grade 5,	10.21
Grade 6,	11.38
Grade 7,	10.16
Grade 8,	8.50
Grade 9,	13.00
A total daily average attendance of	117.30
Percentage of attendance, primary grades,	90.70
Percentage of attendance, grammar grades,	94.61
Total enrollment,	162.00

IMPROVEMENTS.

A storage and horse barn, stable for young stock, and dairy room, for which an appropriation was made last year, have been under construction during the summer and are nearly completed.

An 8-ton York refrigerating machine, with a brine circulating system, has been installed. The compressor is in the engine room, where it is under the engineer's constant supervision.

A concrete tunnel, extending from the power house to the men's ward, has been constructed. All the main steam, hot-water and refrigerating pipes are in this passageway, where they are easily accessible for repairs.

RECOMMENDATIONS.

Special appropriations are requested for the following improvements:—

Garage, carpenter shop and root cellar,	\$7,500
Dormitory,	7,900
House for superintendent,	9,000
X-ray machine,	2,500
Sewage filtration beds,	7,500
Fireproof vault,	2,000

Garage, Carpenter Shop and Root Cellar.—The room now used for a carpenter and repair shop is badly needed for an additional storeroom for groceries and household supplies.

We need a garage, as the touring car and automobile truck are now kept in what was intended for a carriage room, close by the horses. We cannot heat this room except by the use of electric radiators. By this means we can keep the temperature above the freezing point, but cannot make the room warm enough to wash the cars in winter weather. The new building as planned, beside serving as a garage and carpenter shop, will have a roomy loft which will be useful for storage of lumber and other supplies, and the basement under the carpenter shop will make an excellent root cellar.

Dormitory.—We need a building for housing ex-patient employees. This one is planned so that the rooms are very well

ventilated, and each one receives the maximum amount of sunlight and air. In such a building these employees can be kept segregated from those who are well; their hours off duty can be supervised; and they would not so often suffer relapses and have to be readmitted as patients. The building as planned would accommodate 12 women employees.

House for Superintendent. — The time has come when we need more room for the medical, nursing and office staff. The best solution of the problem seems to be to utilize the apartments now occupied by the superintendent's family for additional rooms for nurses and a staff dining room. The dining room now in use by the staff has long been overcrowded. It is located between the kitchen and the patients' dining room, and cannot be enlarged. It is noisy and is excessively hot and uncomfortable in the summer months.

X-Ray Machine. — The X-ray apparatus has been so far perfected that it has become of very great value in the study and diagnosis of diseases of the chest. It is also almost a necessity for cases that require pneumothorax treatment.

Sewage Filtration Beds. — Our present filter beds were constructed at the time the institution was opened. Since then we have nearly doubled our population. The result has been that the amount of sewage going to the beds has been so great that they would not dry out. They have become water-logged and useless so far as filtration is concerned. We are now obliged to allow the sewage to overflow on to our plowed land. It is necessary to provide beds two or three times the area now in use, and they should be placed at a greater distance from the buildings.

Fireproof Vault. — The plan submitted has been approved by the Commissioner of Public Records. The construction of this vault is necessary to enable us to comply with the law, which requires specified records to be kept under fireproof conditions.

WORK OF THE DEPARTMENTS.

We have been very fortunate in retaining the same physicians. Dr. Roy Morgan, who is now in his seventh year at the institution, has charge of the medical service, which is now on a much more efficient basis than ever before.

The nursing staff has been reorganized. Instead of having each ward run as an independent unit under a head nurse, each responsible only to the superintendent, a matron was appointed to take charge of that important branch of the work. We were fortunate in obtaining Miss Annie S. Rathbone for this position. She is a graduate of the Massachusetts General Hospital, and has had several years' experience in sanatorium work. Under her efficient supervision the nursing service has become better organized and the character of the housekeeping has been improved.

FARM.

I wish to call attention to the efficient work accomplished on the farm under Frank J. Clegg's management. The land is becoming more productive each year, and last season, in spite of the shortage of labor and poor climatic conditions, the farm as a whole showed a good profit.

ENGINEERING DEPARTMENT.

This work is now under the charge of Benjamin F. Sandiford, who came to the sanatorium from the Boston City Hospital. Although he has been here but a few months, he is getting the heating and power plant into better condition than it has ever been before. I am certain that his supervision will result in greater efficiency, and will show considerable economy in operation as compared with previous years.

ACKNOWLEDGMENTS.

Religious services have been held by Catholic, Protestant and Jewish clergymen. Their religious ministrations have been appreciated by the patients, and they have been helpful in many ways in promoting better discipline and good conduct in the institution.

To the many kind friends of the sanatorium in neighboring cities and towns who have sent us books and magazines, and contributed liberally toward the patients' Christmas festivities, I am deeply grateful.

My work is made very much easier and greater results are accomplished by the hearty co-operation which exists between

the different departments. The personnel of the employees, as a whole, is better than ever before, and the class of work a decided improvement over previous years.

I appreciate very much your continued confidence and willing sacrifice of time in giving advice and support in carrying on the many different activities which go to make up the administrative duties of the superintendent.

HENRY D. CHADWICK,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1916: —

CASH ACCOUNT.

Balance Dec. 1, 1915,	\$3,838 05
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*Receipts.**Institution Receipts.*

Board of inmates: —

Private,	\$3,365 99
Cities and towns,	41,180 89

\$44,546 88

Sales: —

Food,	\$632 18
Medical and general care,	23 01

Farm and stable: —

Cows and calves,	\$199 00
Pigs and hogs,	997 22
Hides,	24 65
Sundries,	45 30

1,266 17

1,921 36

Miscellaneous receipts: —

Interest on bank balances,	\$186 55
Sundries,	25 83

212 38

46,680 62

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of 1915,	\$984 15
Advance money (amount on hand November 30),	8,000 00
Approved schedules of 1916,	118,153 30

127,137 45

Special appropriations,	10,996 66
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Total,	\$188,652 78
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Payments.

To treasury of Commonwealth, institution receipts,		\$46,680 62
Maintenance appropriations: —		
Balance November schedule, 1915,	\$4,822 20	
Eleven months' schedules, 1916,	118,153 30	
November advances,	5,656 26	
		<hr/>
		128,631 76
Special appropriations: —		
Approved schedules,		10,996 66
Balance, Nov. 30, 1916: —		
In bank,	\$2,082 86	
In office,	260 88	
		<hr/>
		2,343 74
Total,		<hr/>
		\$188,652 78

MAINTENANCE.

Appropriation, current year,	\$127,200 00
Expenses (as analyzed below),	127,200 00
	<hr/>
Balance reverting to treasury of Commonwealth,	—

Analysis of Expenses.

Salaries, wages: —		
Henry D. Chadwick, superintendent,	\$2,500 00	
General administration,	21,591 52	
Medical service,	2,535 40	
Ward service (male),	2,511 98	
Ward service (female),	9,558 73	
Repairs,	1,532 74	
Farm and stable,	9,555 98	
Grounds,	672 42	
		<hr/>
		\$50,458 77
Religious instruction: —		
Catholic,	\$600 00	
Jewish,	239 20	
Protestant,	360 00	
		<hr/>
		1,199 20
Travel, transportation and office expenses: —		
Advertising,	\$5 18	
Automobiles,	1,125 00	
Automobile repairs and supplies,	1,441 30	
Postage,	153 97	
Printing and binding,	166 40	
Stationery and office supplies,	569 17	
Telephone and telegraph,	540 15	
Travel,	296 63	
Freight,	15 60	
		<hr/>
		4,313 40
Food: —		
Butter,	\$2,594 15	
Butterine,	119 45	
Beans,	265 87	
		<hr/>
Amounts carried forward,	\$2,979 47	\$55,971 37

<i>Amounts brought forward,</i>	\$2,979 47	\$55,971 37
Food — <i>Con.</i>		
Bread, crackers, etc.,	118 68	
Canned soups,	31 48	
Cereals, rice, meal, etc.,	684 57	
Cheese,	164 17	
Eggs,	3,591 33	
Flour,	1,289 99	
Fish (fresh, cured and canned),	1,312 16	
Fruit (fresh),	776 62	
Fruit (dried and preserved),	970 21	
Lard and substitutes,	741 38	
Macaroni and spaghetti,	76 60	
Meats,	11,479 23	
Milk (fresh and substitutes),	252 77	
Molasses and syrups,	135 09	
Peanut butter, pie filling, etc.,	150 17	
Potatoes,	1,105 28	
Seasonings and condiments,	492 74	
Sugar,	1,578 55	
Tea, coffee, cocoa, etc.,	597 75	
Vegetables (fresh),	189 91	
Vegetables (canned and dried),	943 47	
Yeast, baking powder, etc.,	165 81	
Sundries,	39 87	
Freight,	232 75	
		30,100 05
Clothing and materials: —		
Boots, shoes and rubbers,	\$211 17	
Clothing (outer),	309 41	
Clothing (under),	43 92	
Dry goods for clothing,	377 28	
Hats and caps,	17 00	
Leather and shoe findings,	41 21	
Machinery for manufacturing,	41 60	
Socks and small wares,	77 06	
Sundries,	1 70	
Freight,	7 27	
		1,127 62
Furnishings and household supplies: —		
Beds, bedding, etc.,	\$1,422 77	
Carpets, rugs, etc.,	180 82	
Crockery, glassware, cutlery, etc.,	609 21	
Dry goods and small wares,	72 96	
Fire hose and extinguishers,	66 00	
Furniture, upholstery, etc.,	539 29	
Kitchen and household wares,	1,976 11	
Laundry supplies and materials,	1,066 84	
Lavatory supplies and disinfectants,	419 26	
Machinery for manufacturing,	17 57	
Table linen, paper napkins, towels, etc.,	350 43	
Sundries,	15 05	
Freight,	120 12	
		6,856 43
<i>Amount carried forward,</i>		\$94,055 47

<i>Amount brought forward,</i>		\$94,055 47	
Medical and general care: —			
Books, periodicals, etc.,	\$127 76		
Entertainments, games, etc.,	177 09		
Funeral expenses,	20 00		
Ice and refrigeration,	176 31		
Laboratory supplies and apparatus,	34 33		
Manual training supplies,	551 72		
Medicines (supplies and apparatus),	1,254 83		
Medical attendance (extra),	218 20		
School books and supplies,	225 30		
Sputum cups, etc.,	292 54		
Tobacco, pipes, matches,	8 51		
Sundries,	41 95		
Freight,	33 49		
			3,162 03
Heat, light and power: —			
Coal,	\$3,664 36		
Freight on coal and other expenses,	5,513 87		
Oil,	266 49		
Operating supplies for boilers and engines,	202 41		
Sundries,	88 16		
Freight,	2 14		
			9,737 43
Farm and stable: —			
Bedding materials,	\$403 47		
Blacksmithing and supplies,	96 30		
Carriages, wagons and repairs,	24 85		
Dairy equipment and supplies,	56 81		
Fencing materials,	21 45		
Fertilizers,	388 78		
Grain, etc.,	3,738 84		
Hay,	2,954 56		
Harnesses and repairs,	28 95		
Rent,	15 00		
Road work and materials,	6 02		
Spraying materials,	18 08		
Stable and barn supplies,	28 36		
Tools, implements, machines, etc.,	114 85		
Trees, vines, seeds, etc.,	313 50		
Veterinary services, supplies, etc.,	223 44		
Sundries,	75		
Freight,	925 71		
			9,359 72
Grounds: —			
Tools, implements, machines, etc.,	\$14 06		
Trees, vines, shrubs, seeds, etc.,	81 78		
Freight,	67		
			96 51
Repairs, ordinary: —			
Cement, lime, crushed stone, etc.,	\$67 95		
Electrical work and supplies,	357 89		
Hardware, iron, steel, etc.,	600 48		
Labor (not on pay roll),	516 92		
<i>Amounts carried forward,</i>	\$1,543 24	\$116,411 16	

<i>Amounts brought forward,</i>		\$1,543 24	\$116,411 16
Repairs, ordinary — <i>Con.</i>			
Lumber, etc. (including finished products),		775 20	
Paint, oil, glass, etc.,		685 21	
Plumbing and supplies,		291 89	
Roofing and materials,		28 01	
Steam fittings and supplies,		531 31	
Tents, awnings, etc.,		33 48	
Tools, machines, etc.,		703 20	
Boilers, repairs,		132 24	
Dynamos, repairs,		56 76	
Engines, repairs,		98 29	
Sundries,		8 63	
Freight,		169 94	
			5,057 40

Repairs and renewals: —**Carpenter work and equipment: —**

Changes in kitchen and dining room,	\$1,024 79	
Asphaltum floors,	481 58	
Renewal of paper roof on piggery,	159 20	
Roofing, administration building,	204 00	
Pipe covering, green house,	20 72	
Switch board, power house,	341 00	
Refrigeration,	3,500 15	
		5,731 44

Total expenses for maintenance,	\$127,200 00
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SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1915,	\$3,027 20
Appropriations for fiscal year,	8,284 84
Total,	\$11,312 04
Expended during the year (see statement annexed),	\$10,996 66
Reverting to treasury of Commonwealth,	38
	10,997 04
Balance Nov. 30, 1916,	\$315 00

RESOURCES AND LIABILITIES.*Resources.*

Cash on hand,	\$2,343 74
November cash vouchers (paid from advance money), account of maintenance,	5,656 26
Due from treasury of Commonwealth from available appropriation, account of November, 1916, schedule,	1,046 70
	\$9,046 70

Liabilities.

Schedule of November bills,	\$9,046 70
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PER CAPITA.

During the year the average number of inmates has been 263.8.

Total cost for maintenance, \$127,200.

Equal to a weekly per capita cost of \$9.275.

Receipt from sales, \$1,921.36.

Equal to a weekly per capita of \$0.14+.

All other institution receipts, \$44,759.26.

Equal to a weekly per capita of \$3.2629.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Grading, concrete walks, lighting,	Acts 1914, chap. 131	\$2,500 00	\$80 78	\$2,499 98	\$0 02 ¹
Coal trestle,	Acts 1914, chap. 131	3,926 43	642 11	3,926 37	06 ¹
School building,	Acts 1915, chap. 117	13,725 00	1,489 29	13,724 98	02 ¹
Purchase and installation of boilers,	Acts 1915, chap. 110	2,000 00	814 87	1,999 95	05 ¹
Equipment for barn and dairy,	Acts 1916, chap. 102	1,784 84	1,469 84	1,469 84	315 00
Storage building, stable, etc.,	Acts 1916, chap. 102	6,500 00	6,499 77	6,499 77	23 ¹
		\$30,436 27	\$10,996 66	\$30,120 89	\$315 00

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

HENRY D. CHADWICK,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

REAL ESTATE.

Land: —

Used for tillage, 44 acres,	\$3,300 00
Used for pasture, 4 acres,	40 00
Used for grounds, 32 acres,	5,855 05
Used for mowing, $19\frac{5}{8}$ acres,	1,471 88
Used for woodland, 40 acres,	2,000 00
Waste and miscellaneous, $38\frac{3}{8}$ acres,	236 88

Buildings: —

Administration,	40,493 36
Inmates,	55,609 00
Farm, stable and grounds,	18,375 00
Employees,	5,100 00
Heat, light and power,	15,070 00
Miscellaneous purposes,	16,026 43

Miscellaneous: —

Sewage system,	1,948 80
Equipment for heat, light and power,	16,404 89
Water system,	2,481 34
Heating system,	2,376 15
Hot-water system,	729 55
Telephone system,	75 00
Street and barn lighting,	758 91
Laundry equipment,	2,742 25

Total real estate, \$191,094 49

PERSONAL PROPERTY.

East ward,	\$4,216 32
West ward,	4,149 97
Children's ward,	5,320 36
Laboratory,	885 17
Administration building,	1,524 01
Service building,	2,933 43
Recreation room,	502 95

Amounts carried forward, \$19,532 21 \$191,094 49

<i>Amounts brought forward,</i>	\$19,532 21	\$191,094 49
Annex,	828 80	
Pignatare farmhouse,	74 02	
Superintendent's apartments,	1,060 70	
Staff camp,	52 63	
Office,	1,520 69	
School building,	2,737 98	
Kitchen and cafeteria,	3,775 84	
Bakery,	641 24	
Storeroom,	2,034 62	
Power house, employees' rooms,	524 60	
Laundry,	516 41	
Engine room,	848 04	
Paint shop,	152 36	
Carpenter shop,	517 44	
Farm and farmhouse,	18,003 24	
Total personal property,	<hr/>	52,820 82
Total valuation,		<hr/> \$243,915 31

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number received during the year,	140	142	282
Number passing out of the institution during the year, .	140	144	284
Number at the end of the fiscal year in the institution, .	133	133	266
Daily average attendance (number of inmates actually present) during the year.	132.81	130.97	263.78
Average number of employees and officers during the year, .	68	30	98

Expenditures.

Current expenses:—

1. Salaries and wages,	\$50,458 77
2. Clothing,	1,127 62
3. Subsistence,	30,100 05
4. Ordinary repairs,	5,057 40
5. Office, domestic and outdoor expenses,	40,456 16

Total, \$127,200 00

Extraordinary expenses:—

1. Permanent improvements to existing buildings and new construction,	10,996 66
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Grand total, \$138,196 66

Summary of Current Expenses.

Total expenditures,	\$138,196 66
Deducting extraordinary expenses,	10,996 66
	\$127,200 00
Deducting amount of sales,	1,921 36
	\$125,278 64

Dividing this amount by the daily average number of patients, 263.78, gives a cost for the year of \$474.90, equivalent to an average weekly net cost of \$9.13.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1915, to Nov. 30, 1916, inclusive.	140	142	282
Number of patients discharged Dec. 1, 1915, to Nov. 30, 1916, inclusive.	140	144	284
Number of deaths (included in preceding item),	30	25	55
Number in sanatorium Dec. 1, 1915,	133	135	268
Number remaining Nov. 30, 1916,	133	133	266

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	25	22	47
Single,	115	118	233
Widowed,	—	2	2
Totals,	140	142	282

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	50	56	106
14 to 20 years,	26	32	58
21 to 30 years,	37	29	66
31 to 40 years,	14	17	31
41 to 50 years,	9	8	17
51 to 60 years,	4	—	4
Totals,	140	142	282

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	87	23	21	89	25	23	176	48	44
New England States,	10	7	10	11	6	4	21	13	14
Other States,	4	4	5	6	7	7	10	11	12
Total native,	101	34	36	106	38	34	207	72	70
Other countries: —									
Africa,	—	—	—	—	1	—	—	1	—
Armenia,	1	1	1	—	—	—	1	1	1
Austria,	2	4	4	—	1	—	2	5	4
Bohemia,	—	—	—	1	2	2	1	2	2
Canada,	7	17	12	7	19	20	14	36	32
China,	—	1	—	—	—	—	—	1	—
England,	2	4	5	1	5	1	3	9	6
Finland,	—	1	1	2	4	4	2	5	5
France,	—	—	—	—	1	1	—	1	1
Germany,	—	—	—	1	3	2	1	3	2
Greece,	1	2	2	1	1	1	2	3	3
Ireland,	6	32	34	7	25	35	13	57	69
Italy,	2	8	6	3	7	7	5	15	13
Poland,	1	1	1	1	2	2	2	3	3
Portugal,	—	1	1	1	—	—	1	1	1
Rumania,	—	—	—	1	1	1	1	1	1
Russia,	5	7	8	6	10	10	11	17	18
Scotland,	3	6	5	1	2	2	4	8	7
Sweden,	2	3	3	—	1	1	2	4	4
Switzerland,	—	—	—	—	—	1	—	—	1
Syria,	2	2	2	—	—	—	2	2	2
Trinidad,	1	—	—	—	—	—	1	—	—
Turkey,	—	—	—	—	1	—	—	1	—
Total foreign born,	35	90	85	33	86	90	68	176	175
Unknown,	4	16	19	3	18	18	7	34	37
Grand total,	140	140	140	142	142	142	282	282	282

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.	PLACE.	Number.
Agawam,	1	Hubbardston,	1
Allston,	1	Jamaica Plain,	1
Amesbury,	1	Lenox,	1
Arlington,	1	Leominster,	9
Arlington Heights,	1	Lowell,	8
Ashburnham,	1	Ludlow,	3
Athol,	2	Lynn,	3
Attleboro,	2	Malden,	2
Barre,	1	Marlborough,	3
Beverly,	2	Medford,	4
Billerica,	1	Melrose,	2
Blackstone,	1	Middleborough,	2
Boston,	25	Milton,	1
Brockton,	10	New Bedford,	2
Brookline,	5	Newton,	1
Cambridge,	2	Newton Center,	1
Charlestown,	2	North Brookfield,	1
Chelsea,	2	North Easton,	1
Chester,	1	Norwood,	1
Chicopee,	1	Orange,	1
Colrain,	1	Otter River,	1
Dedham,	1	Pittsfield,	10
Dorchester,	8	Plymouth,	1
East Dedham,	1	Quincy,	2
Everett,	1	Revere,	1
Fairview,	1	Roslindale,	1
Fall River,	7	Roxbury,	6
Fitchburg,	10	Salem,	1
Foxborough,	1	Somerville,	7
Gardner,	1	South Deerfield,	1
Gloucester,	3	Spencer,	2
Great Barrington,	1	Springfield,	15
Greenfield,	1	State minor wards,	13
Greenwood,	1	Taunton,	2
Haverhill,	2	Uxbridge,	1
Hingham,	1	Walpole,	1
Holyoke,	22	Waltham,	2

TABLE 5. — *Residence of Patients admitted* — Concluded.

PLACE.	Number.	PLACE.	Number.
Ware,	1	West Upton,	1
Watertown,	1	Whitinsville,	1
Waterville,	2	Williamstown,	1
Wendell,	1	Winchester,	1
Westfield,	8 ¹	Woburn,	1
West Auburn,	1	Worcester,	10
West Roxbury,	2	Total,	282
West Springfield,	5		

¹ Two admitted from Westfield State Sanatorium.TABLE 6. — *Occupations.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Assembler,	1	-	1	Mill hand,	8	10	18
At home,	-	2	2	Nurse,	-	3	3
Bookkeeper,	1	-	1	Orderly,	7	-	7
Brakeman,	2	-	2	Painter,	2	-	2
Bricklayer,	1	-	1	Plasterer,	1	-	1
Carpenter,	4	-	4	Plumber,	1	-	1
Chauffeur,	2	-	2	Porter,	1	-	1
Clerk,	5	2	7	Printer,	1	-	1
Cloth designer,	1	-	1	Reed worker,	1	-	1
Curtain operator,	-	1	1	Salesman,	1	-	1
Domestic,	-	15	15	School,	65	79	144
Electrician,	2	-	2	Seamstress,	-	1	1
Engineer,	2	-	2	Shoemaker,	1	-	1
Engraver,	1	-	1	Stenographer,	-	1	1
Farmer,	1	-	1	Steward,	1	-	1
Housewife,	-	18	18	Tailor,	3	-	3
Ice-man,	1	-	1	Teacher,	-	2	2
Insurance agent,	1	-	1	Teamster,	5	-	5
Iron worker,	1	-	1	Telephone girl,	-	2	2
Janitor,	3	-	3	Waiter,	2	-	2
Laborer,	1	-	1	Waitress,	-	1	1
Loom fixer,	1	-	1	Ward maid,	-	4	4
Machinist,	7	-	7	Watchman,	1	-	1
Master millwright,	1	-	1				

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	35	40	75
Moderately advanced,	30	37	67
Advanced,	75	64	139
Non-tuberculous,	—	—	—
Totals,	140	141 ¹	281 ¹

¹ One, tuberculosis of skin.TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	51	55	106
Quiescent,	21	19	40
Unimproved,	18	19	37
Improved,	12	18	30
Died,	30	25	55
Non-tuberculous,	—	—	—
Not considered,	8	8	16
Totals,	140	144	284

TABLE 9. — *Deaths.*

	DURATION OF DISEASE.			SANATORIUM RESIDENCE.		
	Males.	Females.	Totals.	Males.	Females.	Totals.
Under one month,	—	—	—	3	2	5
1 to 3 months,	—	—	—	5	4	9
3 to 6 months,	1	—	1	6	5	11
6 to 9 months,	—	—	—	2	4	6
9 months to 1 year,	3	2	5	6	2	8
1 to 2 years,	6	8	14	3	5	8
2 to 5 years,	12	8	20	5	2	7
5 to 10 years,	8	5	13	—	1	1
Over 10 years,	—	2	2	—	—	—
Totals,	30	25	55	30	25	55

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.

RESIDENT OFFICERS.

ELLIOTT WASHBURN, M.D.,	. . . . .	<i>Superintendent.</i>
WILLARD B. HOWES, M.D.,	. . . . .	<i>Physician.</i>
WILLIAM C. SCHROEDER, M.D.,	. . . . .	<i>Physician.</i>
LEON A. ALLEY, M.D.,	. . . . .	<i>Physician.</i>
NISHAN HAMPSON, M.D.,	. . . . .	<i>Bacteriologist.</i>

THOMAS H. MURRAY,	. . . . .	<i>Steward.</i>
DELYA E. NARDI,	. . . . .	<i>Superintendent of Nurses</i>
WALTER C. BROWN,	. . . . .	<i>Chief Engineer.</i>
CHARLES E. CHAPMAN,	. . . . .	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the report of the Rutland State Sanatorium for the year ending Nov. 30, 1916.

There were under treatment 817 patients. This number includes 352 patients who were in the sanatorium on Dec. 1, 1915, plus 465 who were admitted during the year. The number admitted was 73 less than in 1915.

There were 465 discharges as against 535 in 1915.

The total number of days of treatment provided to patients was 127,401.

The daily average of patients was 348, which was 1 less than in 1915. Our daily average suffers somewhat from the fact that during every year a considerable number of applicants fail to appear upon the date assigned for their admission, which means a loss of two or three days in every such instance before other applicants can be admitted in their stead. In 1916 this loss was 410 hospital days.

Patients admitted from Dec. 1, 1915, to Nov. 30, 1916, on admission were classified as shown by the accompanying table. For purposes of comparison there is also shown the classification of the same patients as stated on their application blanks. A marked variance will be noted. To some extent this is due to the fact that the waiting list is so long that considerable time elapses between the dates of filing the application and actual admission to the sanatorium, thus giving opportunity for changes in the stage of their disease.

	Classifica- tion on Application Blanks.	Classifica- tion on Admission.
Incipient,	342	177
Moderately advanced,	117	230
Far advanced,	3	50
Non-tuberculous,	—	3
Not classified,	3	5
Totals,	465	465

On admission, according to our classification, 38.06 per cent. were incipient, 49.46 per cent. were moderately advanced, 10.75 per cent. were far advanced, .64 per cent. were considered non-tuberculous and 1.09 per cent. were unclassified.

At the close of the year there were in the sanatorium 352 patients, of whom 103, or 29.26 per cent., were deemed to be incipient; 201, or 57.10 per cent., were moderately advanced; 47, or 10.51 per cent., were far advanced; and 1, or .28 per cent., was unclassified. During the year the daily average number of bed patients was approximately 100, or 28+ per cent. of the daily total average number of patients.

The average length of stay of discharged patients who stayed in the sanatorium at least one month, long enough to be "considered" on our records, was eight months and twenty-nine days, which was one month and two days less than in the preceding year. In view of the long waiting list of applicants for admission, and of the fact that few patients show further gain after they have been here for one and one-half years, the recommendation of the annual report for 1915 is repeated, namely, that the limit of residence at this sanatorium be reduced to one and one-half years instead of two years as at present.

The geographical distribution of admitted patients appears in a special table later in this report. Of the total number of admissions — namely, 465 — there were admitted from Boston 180, or 39 per cent., although a large number of these had no legal settlement in Boston.

Of the 465 patients who were admitted during the year, 17.2 per cent. paid their own bills during their entire sanatorium residence, or up to the end of the time covered by this re-

port; 7.3 per cent. paid for varying periods and then discontinued paying, alleging inability to continue, thus throwing their bills upon their cities and towns or upon the State. The balance, or 75.5 per cent. of all patients admitted during the year, contributed nothing toward their own support, and the cost of their sanatorium maintenance was borne by their cities and towns of legal settlement or by the State. Thus it appears that 17.2 per cent. paid their bills; 7.3 per cent. paid a part; and the balance, 75.5 per cent., paid nothing. In this connection it should not be forgotten that the law fixes the rate at \$4 per week, while the weekly per capita cost in 1916 was \$10.63. Consequently, even when patients pay their own bills, or their cities and towns pay for them, the State has to make up the balance, or \$6.63 per week per such patient. Unusual efforts were made in 1916 to collect as much as possible from the patients themselves. Where there was reason to believe that patients were able, by themselves or by those legally bound to pay for them, to care for their own bills and yet refused to do so, it was brought to the attention of the Attorney-General.

The average gain in weight of discharged patients was 12.59 pounds; average gain for women, 12.44 pounds, for men, 12.75; the largest gain in a woman was $57\frac{1}{2}$ pounds, in a man $46\frac{3}{4}$.

There were discharged with their disease considered to be arrested, 45 patients; apparently arrested, 133; quiescent, 49; improved, 122; not improved, 69; dead, 20; non-tuberculous, 6; not considered, owing to less than one month's stay in the sanatorium, 21.

OFFICERS.

It was a year of many changes in the official family.

Dr. James A. Lyon, on leave of absence granted by the trustees early in July, joined the National Guard, and was assigned to the Second Massachusetts Ambulance Company, and sent to the Texas Border. Later he presented his resignation as assistant superintendent and physician. He intends to enter private practice upon the completion of his military service. Dr. Lyon served the sanatorium for more than seven years.

Dr. O. C. B. Nason resigned, and was succeeded by Dr.

William F. Smith, who served until September, when he felt obliged to give up the work. He was succeeded by Dr. Leon A. Alley, formerly of the Boston Consumptives' Hospital at Mattapan.

Dr. Roy V. Jackson acted as temporary assistant physician for a short time, and was followed by Dr. William C. Schroeder, formerly of the State Sanatorium at Meriden, Conn. On Dec. 1, 1916, our medical staff will consist of Dr. Willard B. Howes, senior physician, Dr. Schroeder and Dr. Alley.

Charles E. Carroll, connected with the institution for eighteen years, in most of which he was steward, resigned early in July. Mr. Carroll assumed the management of Maple Lodge Sanatorium in Rutland. He was succeeded by Thomas H. Murray of Boston.

Miss M. B. Floyd, superintendent of nurses, resigned late in November, to assume the superintendency of the Frederick S. Coolidge Memorial Sanatorium at Pittsfield. She will be succeeded here, on December 1, by Miss Delya Nardi, formerly assistant superintendent of nurses at the Worcester City Hospital.

EXPENSE OF OPERATING.

The treasurer's report shows the income and expense accounts for the year. Our income was much less than in 1915, but the loss was due to the fact that the income for 1915 was \$60,000 more than normal, because in 1915 we collected that amount by legal action against a city which was heavily in arrears to the sanatorium. However, although less than in 1915, the income for 1916 was much larger than in any other previous year because of the constant effort to collect all that was due to us from individuals and municipalities. A considerable number of bills were given to the Attorney-General for collection, with good results.

FARM.

The farm is now on a firm working basis, and the outlook is encouraging. We have increased our milk production 100 quarts per day, which means that our contracts for milk to be bought in 1917 may be reduced by a similar amount.

PRISON LABOR.

Although a balance for prison labor was available from a special grant of 1915, and although the Legislature of 1916 appropriated \$5,000 to complete the contemplated work, nothing was done in 1916 because the reformatory at Concord had no prisoners available for such work. This scarcity of prisoners was an unforeseen and unexpected contingency. As the money could be used for no other purpose, the unexpended balance of the 1915 special grant will revert to the State treasury on Dec. 1, 1916, but the special appropriation of 1916, \$5,000, is still available for 1917, provided the reformatory at Concord spare us any prisoners. Therefore there is nothing further to add to our remarks on prison labor which were a part of our annual report for 1915.

MEDICAL SERVICE.

The members of the medical profession who read the annual reports of this sanatorium annually expect something new in regard to medical care and treatment of pulmonary tuberculosis, — something of new methods, new treatment, new medical thoughts. None regret more than the writer that he has no valuable or authoritative data concerning such matters. Here and there we have, perhaps, some slight modification of old and established methods of attack, but nothing radical. Our throat work increases every year. The report of Dr. Getchell, visiting laryngologist, appears elsewhere in this report, and is of much interest and value. The results of actual cautery treatment of certain cases of laryngeal tuberculosis were extremely gratifying. Some of our results of treatment by the production of artificial pneumothorax were very encouraging, and we believe that this procedure is a valuable adjunct to our armamentarium in carefully selected cases. In one hemorrhage case the results were exceptionally good and appear to be lasting; yet it is suitable in a relatively small per cent. of all cases, and of this small per cent. a portion only show any sustained benefit from its use. On the other hand, we have had no case

which appeared to have been injured by its use. In short, it is a method which in a limited, selected class of cases is well worth trying.

In the annual report of your secretary there appears a list of medical papers published and of lectures and talks given by members of the medical staff during the year.

REPAIRS AND IMPROVEMENTS.

By reason of age the buildings require constant, unremitting attention in order to keep them up to the standard that should be maintained in a State institution.

The Legislature authorized an expense of \$1,500 for a greenhouse. This was built in the rear of the power house, at a point where heating from the central heating plant is easy. Through the kindness, which we hereby acknowledge, of Congressman Gallivan, a member of the original legislative committee which made this institution possible and who has always maintained his interest in our welfare, we have been promised an assortment of bulbs and flowering plants from the botanical garden in Washington. One section of the greenhouse will be given to such use, and the other section to farm purposes, such as raising lettuce and starting early spring plantings.

A new coal trestle, as outlined in our annual report for 1915, made possible by act of the Legislature of this year, was practically completed at the end of the year. It was indeed fortunate that we secured this trestle, as during the year the railroad company condemned our present trestle for heavy loads, greatly to our inconvenience. There were large shipments of coal on the way when the condemnation was reported to us, which we were obliged to unload from the level at a time there was great difficulty in securing labor. This resulted in an accumulation of the demurrage charges for which, because of the brevity of time after the notification, we were really not responsible.

A farm tractor, trailer and equipment have been added to our equipment through a special appropriation for that purpose. This already has proved a great help in plowing, and in hauling

heavy freight from the station. Our coal-hauling problem will never be quite satisfactorily solved, however, until we have a suitable motor coal truck and coal-loading equipment at the new trestle.

NEEDS.

The Legislature of 1916 refused our request for money with which to install a fireproof vault. In order to show our intent and willingness to comply with the law and the request of the Commissioner of Public Records, with your approval the request will be made of the Legislature of 1917. For this purpose the sum of \$2,000 will be asked.

At sundry times our serious need of new and proper kitchen and storeroom facilities, including a system of artificial refrigeration, has been brought to your attention. With your permission plans have been made and estimates obtained, all of which have been incorporated into a request for a special legislative appropriation in the sum of \$60,000 for these special purposes. The exact details and reasons for these improvements are in your knowledge and need not be repeated here, save to state that the measure makes for material economy in labor, heat, water and breakage, and for very marked improvement in efficiency in the proper service of food to patients and to employees, through concentration of kitchen, serving rooms and dining rooms. In addition, it will give very much needed additional storeroom and storage facilities and refrigeration, which at present we do not have. The plans call for an addition to the present kitchen and dining-room building, and for the installation of a system of artificial refrigeration.

CONCLUSION.

To the chaplains of the sanatorium, the Rev. Father O'Connor, the Rev. John Copplestone and Dr. Joseph Suffrin, we all owe thanks for their ministrations to patients ill with a slow, trying and tedious illness, who peculiarly need all the consolation and spiritual aid that religion offers. To those who by their various gifts, of material or of their entertaining talent, have helped my patients I express my thanks.

To the officers and employees I extend my appreciation, and to you, the trustees, I bring my gratitude for your unfailing aid in times of stress, and for your valuable advice in my not infrequent perplexities.

Very respectfully submitted,

ELLIOTT WASHBURN,

Superintendent.

RUTLAND, Dec. 1, 1916.

LABORATORY REPORT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the following report of work done in the laboratory for a period of sixteen months past, from June 1, 1915, to Nov. 1, 1915.

The routine work in the laboratory has been a regular and systematic examination of the sputum and the urine of patients immediately after their admission into the sanatorium; subsequently, the examination of pus discharges or other pathological exudate, when it was clinically necessary, as to their bacteriological or cytological contents; the examination of blood as to its percentage of hæmoglobin, and its absolute and relative number of red and white cellular contents, in cases of anæmia or intercurrent infections; the cultivation and isolation of bacteria from exudates or swabs sent in from the wards, operating or throat rooms; the preparation, in certain cases, of autogenic staphylococci vaccines; the dilution of concentrated tuberculin for immediate clinical use; the examination of gastric or bowel contents; the preparation of buttermilk as a part of the dietetic treatment in certain cases of gastrointestinal disorders; the analysis of milk and cream as to its percentage of butter fat; the preparation of different stains, reagents, standard solutions and culture media for the use of the laboratory.

SPUTUM.

Cases negative to tubercle bacilli on first examination were re-examined once every week successively for two weeks. If still negative, re-examination was made after treatment with antiformin, 15 per cent. solution, and if again negative the case was filed for subsequent re-examinations, once every month.

A total of 231 samples of continuously negative sputum were

re-examined by the antiformin method, and 5 were found to be positive. The value of the method has been to find 2.12 positive cases among every 100 cases which were continuously negative by the ordinary routine method of examination.

Sputum found to be positive to tubercle bacilli on the first examination was subsequently re-examined once every two or three months. The Gaffky-Brown method was used to keep the numerical record of tubercle bacilli in a given positive sample of sputum.

Total number of smear preparations and examinations,	9,587
Total positive,	1,740 or 18.25 per cent.
Total negative,	7,847 or 81.74 per cent.
Total number of sanatorium patients examined for tubercle bacilli in their sputum, . . .	975
Positive at some time during their stay (average nine and one-half months), . . .	520 or 53.33 per cent.
Negative continuously,	455 or 46.66 per cent.
Patients having no sputum (not considered in the 975),	55

In order to show the importance attached clinically to sputum examinations by the average practitioner in the State, it was found that out of a total of 706 admitted patients in these sixteen months 102 cases, or 14.43 per cent., were reported on their application blanks as examined and found positive; 250 cases, or 35.41 per cent., were reported on their application blanks as examined and found negative; 354 cases, or 50.14 per cent., were recorded on their application blanks as "not examined," but 79 of these, or 11.18 per cent. of the total, were reported on their application blanks as having "no sputum."

The above shows that 50 per cent. of the patients' sputum was not examined, and the busiest practitioner could have had these examinations done for him, free, by the laboratory of the State Department of Health.

The following shows the presence or absence of tubercle bacilli in the sputum of patients discharged, designated clinically as "apparently cured," "arrested," "apparently arrested," "quiescent," "improved," "unimproved." Out of a total of 628 patients discharged in the last sixteen months, 204, or

32.48 per cent., had positive sputum on discharge, and 424, or 67.51 per cent., had negative sputum on discharge.

If we remember that 53.33 per cent. of the patients were positive at some time during their residence, and on discharge 32.48 per cent. were positive, it will be seen that 20.85 per cent. of those positive patients have ceased to expectorate tubercle bacilli with their sputum, due to the benefit of the treatment; and moreover, it shows the amount of work to be done by health authorities in order to keep in touch with all tuberculous cases. In this connection it should be borne in mind that a considerable number left against advice before their sputum had cleared up.

URINE.

During sixteen months 841 urine specimens, coming from patients resident in the institution, were examined to determine the presence or absence of albumin, pus, blood, casts or sugar. Out of this number, only 140 were found to contain any abnormal elements; therefore these were analyzed qualitatively as well as quantitatively.

The total number of patients whose urine was examined was 701, only 59, or 8.40 per cent., having pathological elements in the urine continuously, or at some time during residence in the sanatorium.

Blood in urine, 12 cases: 8 cases (5 male, 3 female) had blood and casts; 4 cases (female) had blood without casts.

All the above had positive sputum except one female who had tubercle bacilli in the urine but no sputum.

Sugar in urine, 2 cases: both had positive sputum.

Albuminuria, 45 cases: 31 cases (9 female, 22 male) had albumin in their urine and showed positive sputum; 16 of these (2 female, 14 male) had albumin and casts, and 15 (7 female, 8 male) had albumin but no casts; 14 cases (7 female, 7 male) had albumin and showed negative sputum; 6 of these (2 female, 4 male) had albumin and casts, and 8 (5 female, 3 male) had albumin but no casts.

The presence of blood in the urine with or without casts is very suggestive of tuberculosis of the kidneys, after the exclu-

sion of blood from other sources of the genitourinary tract. However, only one was found to contain tubercle bacilli microscopically; the remainder were negative.

OTHER WORK.

Blood examinations,	47
Gastric contents analyses,	5
Feces examinations,	6
Autogenous vaccines,	3
Milk analyses,	32
Cream analyses,	10

OUTSIDE WORK.

Besides the work done for patients resident in the institution we have made 141 different laboratory examinations of sputum, urine, gastric contents, blood and feces sent to us through the out-patient department and from other sources during the past sixteen months.

Sputum examinations,	80
Urine examinations,	54
Gastric contents examinations,	1
Blood examinations,	4
Feces examinations,	2

Lately it has become the routine of this institution to examine every patient's blood for the presence or absence of the Wassermann reaction. A total of 481 cases have been examined by the State Wassermann laboratory.

Wassermann negative,	440
Wassermann positive (6.23 per cent. of the total),	30
Doubtful,	8
Unsatisfactory,	3

From the group of Wassermann negative cases 190 had tubercle bacilli negative sputum and 250 had tubercle bacilli positive sputum.

From the group of Wassermann positive cases 12 had tubercle bacilli negative sputum and 18 had tubercle bacilli positive sputum.

From the group of doubtful cases 3 had tubercle bacilli negative sputum and 5 had tubercle bacilli positive sputum.

It is interesting to notice that in none of the above groups has the presence or absence of tubercle bacilli in the sputum any influence in making a change in the serological reaction.

Has the stage of lung tuberculosis anything to do with the Wassermann reaction? It seems none whatever, because out of 440 cases in the Wassermann negative group 143 were clinically in the incipient stage, 229 were clinically moderately advanced and 68 were clinically far advanced.

Again, out of the 30 cases in the Wassermann positive group 10 were incipient cases, 16 were moderately advanced and 4 were far advanced.

After excluding all other known diseases and conditions which might give positive Wassermann reactions, supported, at the same time, by the clinical history and symptomatology, the conclusion was reached that these 30 positive cases had constitutional syphilis, acquired or hereditary.

But is the lung condition of those who had no tubercle bacilli in their sputum due to syphilis? We dare not say at present until we are better acquainted with all the other micro-organisms besides tubercle bacilli in the sputum, which might infect the lungs and simulate phthisis clinically. If some of them are known there are others that we do not know. To support this view we have to take again these 481 cases which have been studied carefully, both clinically and pathologically. Of these, 200 had no tubercle bacilli, no actinomyces, no tropical parasites in their sputum, yet clinically 115 were in the incipient stage of tuberculosis, 78 were moderately advanced and 7 were far advanced.

According to the research work done on sputum by Luetscher, 62.5 per cent. of all non-tuberculous infections below the larynx are due to pneumococci, and 28.5 per cent. to the influenza bacillus. These two organisms together cause 91 per cent. of infections of the bronchi and lungs which are non-tuberculous. How many of our cases discharged as having negative sputum, after repeated examinations, belong to this group? The answer should come from the laboratory.

In conclusion, I wish to express my appreciation to Miss Marjorie Carter for her assistance to me in the laboratory work.

Respectfully submitted,

N. HAMPSON,
Bacteriologist.

TREASURER'S REPORT.

To the Trustees of Massachusetts Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1916:—

CASH ACCOUNT.

Balance Dec. 1, 1915, \$7,535 94

*Receipts.**Institution Receipts.*

Board of inmates:—

Private, \$10,232 01
 State minor wards, 40 00
 Cities and towns, 43,242 42

53,514 43

Sales:—

Travel, transportation and
 office expenses, \$88 67
 Food, 759 37
 Furnishings and household
 supplies, 151 85
 Medical and general care, 57 93
 Heat, light and power, 75

Farm and stable:—

Cows and calves, \$358 50
 Pigs and hogs, . 2,005 74
 Ice, 80
 Use of teams, . 74 25
 Sundries, 12 50

2,451 79

Repairs, ordinary, 2 00

3,512 36

Miscellaneous receipts:—

Interest on bank balances, \$367 42
 Sundries, 152 41

519 83

57,546 62

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1915, \$3,067 46
 Advance money (amount on hand November 30), 10,000 00
 Approved schedules of 1916, \$180,275 07
 Less returned, 26 90

180,248 17

193,315 63

Special appropriations, 7,811 96

Total, \$266,210 15

Payments.

To treasury of Commonwealth, institution receipts,	\$57,546 62	
Maintenance appropriations: —		
Balance November schedule, 1915,	\$10,619 10	
Eleven months' schedules, 1916,	180,248 17	
November advances,	5,590 38	
		196,457 65
Special appropriations: —		
Approved schedules,	\$7,811 96	
Less advances, last year's report,	15 70	
		7,796 26
Balance, Nov. 30, 1916: —		
In bank,	\$4,268 95	
In office,	140 67	
		4,409 62
Total,		\$266,210 15

MAINTENANCE.

Appropriation, current year,	\$192,500 00
Expenses (as analyzed below),	192,498 89
Balance reverting to treasury of Commonwealth,	\$1 11

Analysis of Expenses.

Salaries, wages: —		
Elliott Washburn, M.D., superintendent,	\$2,500 00	
General administration,	41,274 67	
Medical service,	4,635 42	
Ward service (male),	1,655 58	
Ward service (female),	7,883 78	
Repairs,	2,976 23	
Farm and stable,	8,872 04	
Grounds,	1,363 10	
		\$71,160 82
Religious instruction: —		
Catholic,	\$600 00	
Jewish,	262 30	
Protestant,	500 00	
		1,362 30
Travel, transportation and office expenses: —		
Advertising,	\$8 37	
Automobiles,	200 00	
Automobile repairs and supplies,	788 20	
Postage,	394 00	
Printing and binding,	387 90	
Stationery and office supplies,	755 08	
Telephone and telegraph,	838 02	
Travel,	506 73	
Freight,	14 73	
		3,893 03
Amount carried forward,		\$76,416 15

Amount brought forward,		\$76,416 15	
Food: —			
Butter,	\$6,382 39		
Butterine,	289 57		
Beans,	286 88		
Bread, crackers, etc.,	182 11		
Cereals, rice, meal, etc.,	734 66		
Cheese,	138 01		
Eggs,	7,906 34		
Flour,	2,329 28		
Fish (fresh, cured and canned),	2,509 10		
Fruit (fresh),	1,601 89		
Fruit (dried and preserved),	1,604 02		
Lard and substitutes,	791 51		
Macaroni and spaghetti,	107 29		
Meats,	27,300 20		
Milk (fresh and substitutes),	8,158 58		
Molasses and syrups,	161 96		
Potatoes,	2,751 01		
Seasonings and condiments,	595 02		
Sugar,	2,754 50		
Tea, coffee, cocoa, etc.,	1,227 72		
Vegetables (fresh),	930 02		
Vegetables (canned and dried),	1,899 14		
Yeast, baking powder, etc.,	182 03		
Freight,	561 25		
		71,384 48	
Clothing and materials: —			
Clothing (outer),	\$101 85		
Clothing (under),	1 50		
Freight,	52		
		103 87	
Furnishings and household supplies: —			
Beds, bedding, etc.,	\$2,280 86		
Carpets, rugs, etc.,	14 91		
Crockery, glassware, cutlery, etc.,	959 50		
Dry goods and small wares,	158 25		
Furniture, upholstery, etc.,	452 79		
Kitchen and household wares,	1,725 69		
Laundry supplies and materials,	1,206 95		
Lavatory supplies and disinfectants,	492 98		
Table linen, paper napkins, towels, etc.,	415 33		
Freight,	63 51		
		7,770 77	
Medical and general care: —			
Books, periodicals, etc.,	\$38 88		
Entertainments, games, etc.,	153 80		
Funeral expenses,	20 00		
Laboratory supplies and apparatus,	39 08		
Medicines (supplies and apparatus),	2,386 34		
Medical attendance (extra),	378 00		
Sputum cups, etc.,	523 31		
Tobacco, pipes, matches,	14 17		
Amounts carried forward,	\$3,553 58	\$155,675 27	

<i>Amounts brought forward,</i>	\$3,553 58	\$155,675 27
Medical and general care— <i>Con.</i>		
Water,	2,292 15	
Freight,	45 40	
Cooking lessons,	53 00	
		5,944 13
Heat, light and power: —		
Coal,	\$13,325 37	
Freight on coal and other expenses,	2,716 62	
Oil,	263 58	
Operating supplies for boilers and engines,	139 06	
Freight,	29 21	
		16,473 84
Farm and stable: —		
Bedding materials,	\$219 95	
Blacksmithing and supplies,	258 24	
Carriages, wagons and repairs,	28 20	
Dairy equipment and supplies,	161 82	
Fertilizers,	597 35	
Grain, etc.,	7,519 23	
Hay,	284 79	
Harnesses and repairs,	101 57	
Horses,	150 00	
Cows, registration of,	38 25	
Other live stock,	189 20	
Labor (not on pay roll),	80 60	
Spraying materials,	6 12	
Stable and barn supplies,	12 50	
Tools, implements, machines, etc.,	289 31	
Trees, vines, seeds, etc.,	393 09	
Veterinary services, supplies, etc.,	206 60	
Freight,	94 55	
		10,631 37
Grounds: —		
Tools, implements, machines, etc.,	\$15 00	
Trees, vines, shrubs, seeds, etc.,	52 86	
Freight,	3 32	
		71 18
Repairs, ordinary: —		
Cement, lime, crushed stone, etc.,	\$138 50	
Electrical work and supplies,	486 53	
Hardware, iron, steel, etc.,	521 36	
Labor (not on pay roll),	14 90	
Lumber, etc. (including finished products),	244 97	
Paint, oil, glass, etc.,	421 15	
Plumbing and supplies,	310 32	
Steam fittings and supplies,	437 87	
Tents, awnings, etc.,	20 00	
Tools, machines, etc.,	176 50	
Boilers, repairs,	219 50	
Dynamos, repairs,	35 38	
Engines, repairs,	33 08	
Freight,	61 48	
		3,121 54
<i>Amount carried forward,</i>		\$191,917 33

Amount brought forward, \$191,917 33

Repairs and renewals: —

Removing and repairing old barn: —

Labor,	\$102 12	
Hardware,	17 23	
Lumber,	126 11	
Paints, oils, glass, etc.,	48 30	
Roofing materials,	285 27	
Freight,	2 53	
		<hr/>
		581 56

Total expenses for maintenance, \$192,498 89

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1915,	\$1,332 78
Appropriations for fiscal year,	16,500 00

Total,	\$18,332 78
Expended during the year (see statement annexed),	\$8,536 09
Reverting to treasury of Commonwealth,	839 19
	<hr/>
	9,375 28

Balance Nov. 30, 1916, \$8,957 50

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$4,409 62	
November cash vouchers (paid from advance money), account of maintenance,	5,590 38	
Due from treasury of Commonwealth from available appropriation, account of November, 1916, schedule,	2,250 72	
	<hr/>	\$12,250 72

Liabilities.

Schedule of November bills,	\$12,250 72
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PER CAPITA.

During the year the average number of inmates has been 348.

Total cost for maintenance, \$192,498.89.

Equal to a weekly per capita cost of \$10.637.

Receipt from sales, \$3,512.36.

Equal to a weekly per capita of \$0.194.

All other institution receipts, \$54,034.26.

Equal to a weekly per capita of \$2.985.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Improvement of land, prison labor account, . . .	- ¹	{ \$4,000	\$973 19 ²	\$3,173 76	\$826 24 ³
Coal trestle,	Res. 1916, chap. 101	1,000	22 33 ²	988 98	11 02 ³
Greenhouse,	Res. 1916, chap. 101	7,500	3,543 22	3,543 22	3,956 78
Improvement of land, prison labor account, . . .	Res. 1916, chap. 108	1,500	1,499 28	1,499 28	72
Tractor engine,	Res. 1916, chap. 101	5,000	-	-	5,000 00
		2,500	2,498 07	2,498 07	1 93 ³
		\$21,500	\$8,536 09	\$11,703 31	\$8,957 50

¹ Transferred from extraordinary expenses, and handled at State Treasurer's office.² \$724.13 paid by State Treasurer.³ Reverting to treasury of the Commonwealth.

Respectfully submitted,

ELLIOTT WASHBURN,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Land: —	
Grounds, 41.217 acres,	\$17,573 80
Lawns and buildings, 31.217 acres.	
Roads, 10 acres.	
Woodland, 69 acres,	2,553 00
Mowing, 77.20 acres,	7,720 00
Tillage, 44.52 acres,	5,203 50
Tillage, 39.51 acres.	
Garden, 5.01 acres.	
Orchard, 6.75 acres,	1,350 00
Pasture, 10.67 acres,	266 75
Waste and miscellaneous, 115.37 acres,	2,783 55
Rough pasture, 90.67 acres.	
Sewer beds, 5.98 acres.	
New coal trestle, .50 acre.	
Meadow swamp, 18.22 acres.	
Total, 364.727 acres,	<u>\$37,450 60</u>
Sewerage system,	15,508 32
	<u>\$52,958 92</u>
Buildings: —	
Institution buildings,	\$443,300 00
Farm, stable and grounds,	26,200 00
Miscellaneous,	2,425 00
Total,	<u>471,925 00</u>
Grand total,	<u>\$524,883 92</u>
Present value of all personal property as per inventory of	
Dec. 1, 1916,	\$55,305 55

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference on Charities and Correction, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number of patients at beginning of fiscal year,	197	155	352
Number received during the year,	233	232	465
Number of discharges during the year,	238	227	465
Number of deaths included in preceding item,	15	5	20
Number present at end of fiscal year,	192	160	352
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	194	154	348
Average number of officers and employees during the year, .	125	71	196

Expenditures.

Current expenditures: —

1. Salaries and wages,	\$71,160 82
2. Clothing,	103 87
3. Subsistence,	71,384 48
4. Ordinary repairs,	3,703 10
5. Office, domestic and outdoor expenses,	46,146 62

Total, \$192,498 89

Extraordinary expenses: —

1. Permanent improvements to existing buildings,	7,811 96
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Grand total, \$200,310 85

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1915, . . .	197	155	352
Number admitted Nov. 30, 1915, to Dec. 1, 1916, . . .	233	232	465
Number discharged Nov. 30, 1915, to Dec. 1, 1916, . . .	238	227	465
Number remaining in sanatorium Nov. 30, 1916, . . .	192	160	352
Daily average number of patients,	194	154	348
Died (included in number discharged),	15	5	20

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	121	128	249
Married,	106	87	193
Widowed,	6	16	22
Divorced,	—	1	1
Totals,	233	232	465

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	22	34	56
20 to 30 years,	103	130	233
30 to 40 years,	70	48	118
40 to 50 years,	35	19	54
Over 50 years,	3	1	4
Totals,	233	232	465

TABLE 4. — *Nativity of Patients admitted.*

PATIENTS BORN IN —	Males.	Females.	Totals.	FATHERS BORN IN —	Males.	Females.	Totals.
United States, . . .	123	127	250	United States, . . .	41	64	105
Ireland,	13	12	25	Ireland,	53	39	92
Russia,	31	24	55	Russia,	33	29	62
Canada,	10	24	43	Canada,	34	36	70
Italy,	8	4	12	Italy,	9	6	15
England,	4	6	10	England,	10	11	21
Sweden,	7	3	10	Sweden,	12	6	18
Austria,	3	4	7	Austria,	4	6	10
Finland,	3	6	9	Finland,	2	6	8
Greece,	3	3	6	Greece,	4	3	7
Germany,	—	—	—	Germany,	4	3	7
Norway,	2	2	4	Norway,	2	2	4
Armenia,	6	1	7	Armenia,	6	1	7
Newfoundland, . . .	1	5	6	Newfoundland, . . .	2	5	7
Scotland,	3	4	7	Scotland,	7	6	13
Rumania,	1	3	4	Rumania,	1	1	2
Poland,	2	—	2	Poland,	2	—	2
Portugal,	1	2	3	Portugal,	4	2	6
Syria,	1	1	2	Syria,	1	1	2
Turkey,	2	—	2	Turkey,	2	—	2
France,	—	1	1	France,	—	2	2
Denmark,	—	—	—	Denmark,	—	1	1
Wales,	—	—	—	Wales,	—	1	1
Unknown,	—	—	—	Unknown,	—	1	1
Totals,	233	232	465	Totals,	233	232	465

TABLE 5. — *Residence of Patients admitted.*

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Adams,	-	1	1	Ipswich,	-	1	1
Amherst,	-	1	1	Lawrence,	3	1	4
Arlington,	1	1	2	Leominster,	-	1	1
Athol,	-	1	1	Lexington,	1	1	2
Attleboro,	5	5	10	Lowell,	2	4	6
Barnstable,	1	-	1	Lynn,	13	2	15
Belmont,	1	-	1	Malden,	4	3	7
Beverly,	1	1	2	Marlborough,	3	1	4
Billerica,	-	2	2	Marshfield,	-	1	1
Boston,	88	92	180	Maynard,	1	-	1
Braintree,	1	-	1	Medford,	-	1	1
Brockton,	14	6	20	Melrose,	1	-	1
Brookfield,	1	-	1	Milford,	3	-	3
Cambridge,	4	8	12	Millbury,	-	1	1
Chelsea,	4	3	7	Milton,	-	1	1
Clinton,	-	1	1	Nahant,	2	-	2
Concord,	-	1	1	Natick,	-	2	2
Danvers,	-	1	1	Needham,	3	-	3
Dedham,	1	1	2	New Bedford,	1	-	1
Dracut,	-	1	1	Newburyport,	2	-	2
East Bridgewater,	-	1	1	Newton,	2	5	7
East Northfield,	-	1	1	North Andover,	-	1	1
Easton,	1	-	1	North Attleborough,	-	1	1
Essex,	1	-	1	North Brookfield,	-	1	1
Everett,	3	2	5	Northbridge,	1	1	2
Fairhaven,	-	1	1	Norwood,	1	2	3
Fall River,	2	8	10	Palmer,	1	-	1
Fitchburg,	-	3	3	Peabody,	2	1	3
Gloucester,	1	5	6	Pepperell,	1	-	1
Grafton,	-	1	1	Pittsfield,	1	-	1
Haverhill,	2	4	6	Plymouth,	-	1	1
Hingham,	1	-	1	Quincy,	2	2	4
Holden,	1	1	2	Randolph,	1	-	1
Holliston,	1	-	1	Revere,	2	3	5
Holyoke,	3	-	3	Rutland,	3	2	5
Hudson,	1	-	1	Salem,	2	3	5

TABLE 5. — *Residence of Patients admitted* — Concluded.

CITIES AND TOWNS.	Males.	Females.	Totals.	CITIES AND TOWNS.	Males.	Females.	Totals.
Saugus,	-	1	1	Waltham,	-	1	1
Saxonville,	1	1	2	Ware,	1	-	1
Sharon,	-	1	1	Waverley,	-	1	1
South Hadley Falls,	-	1	1	Wellesley,	1	-	1
South Lincoln,	-	1	1	Westfield,	-	1	1
South Sudbury,	1	-	1	Westminster,	-	1	1
Somerville,	6	7	13	West Newbury,	1	-	1
Southborough,	-	1	1	Weymouth,	-	1	1
Southbridge,	-	1	1	Whitman,	1	-	1
Springfield,	3	6	9	Winchester,	2	-	2
Stoughton,	-	1	1	Worcester,	16	10	26
Taunton,	1	-	1	Totals,	233	232	465
Wakefield,	2	-	2				

TABLE 6. — *Occupation.*

	Males.	Females.	Totals.		Males.	Females.	Totals.
Assistant manager,	1	-	1	Cobbler,	1	-	1
Automobile repairer,	2	-	2	Collector,	2	-	2
Baker,	1	-	1	Conductor, street railway,	2	-	2
Barber,	2	-	2	Contractor,	1	-	1
Boiler maker,	1	-	1	Cook,	1	1	2
Bookbinder,	-	2	2	Cutter, card,	1	-	1
Bookkeeper,	3	4	7	Cutter, clothing,	2	-	2
Brakeman,	3	-	3	Cutter, necktie,	1	-	1
Canvasser,	-	2	2	Cutter, shoe,	2	-	2
Car builder,	1	-	1	Cutter, stone,	2	-	2
Carpenter,	10	-	10	Domestic,	-	13	13
Cashier,	2	1	3	Door tender,	1	-	1
Chauffeur,	5	-	5	Dye maker,	1	-	1
Checkroom girl,	-	1	1	Electrician,	4	-	4
Cigar maker,	1	-	1	Elevator man,	4	-	4
Clerk,	28	15	43	Engineer, stationary,	1	-	1

TABLE 6. — *Occupation* — Concluded.

	Males.	Females.	Totals.		Males.	Females.	Totals.
Factory,	46	36	82	Pattern maker,	1	-	1
Farmer,	1	-	1	Paver,	1	-	1
Fireman, stationary,	1	-	1	Peddler,	1	-	1
Garage man,	1	-	1	Photographer's assistant,	1	1	2
General work,	3	-	3	Photo-engraver,	2	-	2
Governess,	-	1	1	Plumber,	2	-	2
Hatter,	1	-	1	Police officer,	3	-	3
Hoseman,	2	-	2	Porter,	1	-	1
Housewife,	-	79	79	Printer,	3	-	3
Housework,	-	14	14	Ranchman,	1	-	1
Jeweller,	1	-	1	Roofer,	1	-	1
Kitchen man,	1	-	1	Salespeople,	6	7	13
Laborer,	3	-	3	Seamstress,	-	4	4
Laundress,	-	3	3	Shipper,	2	-	2
Letter carrier,	1	-	1	Superintendent of build- ings,	1	-	1
Lineman,	1	-	1	Steam fitter,	1	-	1
Longshoreman,	1	-	1	Stenographer,	2	5	7
Machinist,	15	-	15	Stone mason,	1	-	1
Maid, lady's,	-	1	1	Student,	8	8	16
Manager,	1	-	1	Tailor,	5	1	6
Mechanic,	1	-	1	Teacher, music,	-	1	1
Merchant,	2	-	2	Teacher, school,	-	1	1
Motorman,	2	-	2	Teamster,	3	-	3
Moving-picture operator,	1	-	1	Telephone operator,	-	9	9
News agent,	1	-	1	Tinsmith,	2	-	2
No work,	3	9	12	Tool maker,	1	-	1
Nurse, student,	-	4	4	Waiter,	1	6	7
Nurse, trained,	-	3	3	Wire lather,	1	-	1
Painter,	7	-	7	Totals,	233	232	465

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	81	96	177	38.06
Moderately advanced,	131	99	230	49.46
Far advanced,	20	30	50	10.75
Unclassified,	1	4	5	1.09
Non-tuberculous,	—	3	3	.64
Totals,	233	232	465	—

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	20	25	45
Apparently arrested,	67	66	133
Quiescent,	32	17	49
Improved,	61	61	122
Unimproved,	37	32	69
Died,	15	5	20
Non-tuberculous,	1	5	6
Not considered,	5	16	21
Totals,	238	227	465

TABLE 9. — *Deaths, Duration of Disease, Length of Stay in Sanatorium and Cause of Death.*

No.	DURATION.	Length of Stay.	Cause of Death.
9794	1 year, . . .	21 months, 10 days, .	Chronic interstitial nephritis, laryngeal and pulmonary tuberculosis.
10596	3 years, . . .	1 month, 8 days, .	Laryngeal and pulmonary tuberculosis.
10242	6 months, . . .	9 months, 26 days, .	Miliary tuberculosis.
10237	6 months, . . .	11 months, 27 days, .	Tuberculous enteritis and laryngeal and pulmonary tuberculosis.
10292	6 months, . . .	13 months, 1 day, .	Tuberculous meningitis and pulmonary tuberculosis.
10099	1 year, . . .	17 months, 11 days, .	Pulmonary tuberculosis.
10576	1 year, . . .	6 months, 15 days, .	Pulmonary tuberculosis.
10824	2 years, . . .	1 month, 18 days, .	Tuberculous meningitis and pulmonary tuberculosis.
10793	5 years, . . .	2 months, 11 days, .	Hæmoptysis and pulmonary tuberculosis.
10569	1 year, . . .	8 months, . . .	Pulmonary tuberculosis.
10897	6 months, . . .	19 days, . . .	Empyema and pulmonary tuberculosis.
10491	4 months, . . .	11 months, 2 days, .	Pulmonary tuberculosis.
10265	1 year, . . .	16 months, 28 days, .	Pulmonary tuberculosis.
10509	4 years, . . .	11 months, 16 days, .	Laryngeal and pulmonary tuberculosis.
10694	3 years, . . .	7 months, 15 days, .	Pulmonary tuberculosis.
10134	2 years, . . .	20 months, 29 days, .	Hæmoptysis and pulmonary tuberculosis.
10185	6 months, . . .	20 months, 13 days, .	Pulmonary tuberculosis.
11014	3 years, . . .	1 month, 2 days, .	Pulmonary tuberculosis.
10601	1 year, . . .	11 months, 24 days, .	Pulmonary tuberculosis.
10790	9 months, . . .	7 months, 3 days, .	Laryngeal and pulmonary tuberculosis.

Climatological Data, Rutland State Sanatorium, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1915, and ending Nov. 30, 1916.

DATE.	TEMPERATURE (DEGREES).		Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	PRECIPITATION.			WIND (MILES).			Mean Relative Humidity (Per Cent.).
	Mean.	Departure from Normal.					Rain.	Departure from Normal.	Snow.	Total.	Average per Hour.	Departure from Normal.	
1915.													
December,	26.0	+0.1	13	6	10	11	5.81	+2.27	33.1	7,735.0	10.4	-0.2	70.0
1916.													
January,	26.0	+2.9	14	6	11	13	1.82	-2.01	4.0	9,672.0	13.0	+2.7	76.1
February,	17.9	-2.6	11	5	13	14	6.38	+3.33	27.3	7,827.0	11.2	-1.0	75.3
March,	25.0	-6.5	19	4	8	15	3.32	-0.47	33.1	7,580.2	10.2	-0.9	71.8
April, ¹	-	-	-	-	-	-	-	-	-	-	-	-	-
May, ¹	-	-	-	-	-	-	-	-	-	-	-	-	-
June, ¹	-	-	-	-	-	-	-	-	-	-	-	-	-
July,	69.6	+1.1	10	7	14	17	8.66	+4.91	-	6,328.39	8.43	+0.39	85.8
August,	68.3	+2.9	23	3	5	10	1.84	-2.60	-	6,245.5	8.4	+0.04	81.0
September,	64.04	+4.5	22	3	5	7	4.08	+0.33	-	7,122.4	11.09	+3.06	76.3
October,	60.55	+10.55	25	3	3	5	1.36	-2.33	-	5,609.5	7.54	+1.55	72.9
November,	34.46	-3.43	17	2	11	8	2.46	-0.47	2.13	7,901.8	10.97	+0.92	60.5
Totals,	392.85	-	154	39	80	100	35.73	-	99.63	66,021.79	91.23	-	669.7
Averages, ²	43.65	+1.06	17+	4+	9-	11-	3.97	-0.33	19.92+	7,335.75+	10.13+	+1.12	74.8+

¹ The record for April, May and June is incomplete and inaccurate, owing to frequent changes in the personnel of the weather "staff."

² Nine months' average (April, May and June).

ELEVENTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES.

NOVEMBER 30, 1917.



BOSTON:
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TRUSTEES.

ARTHUR K. STONE, M.D., *Chairman.*

CHARLES J. DOWNEY, M.D. SYLVIA B. KNOWLTON.

GEORGE A. DUNN. DANIEL L. PRENDERGAST.

ALBERT C. GETCHELL, M.D. SIMON SWIG.

JOHN B. HAWES, 2D, M.D., *Secretary.*

STATE HOUSE, BOSTON.

The Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report:—

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland State Sanatoria, providing beds for nearly 1,100 patients, have passed an active and successful year. They have provided a total of 393,442 days of treatment for 1,789 patients.

The most important event, as affecting the work of this Board and the tuberculosis campaign in general, that has taken place during the past year has been the carrying out of the provisions of the so-called county hospital act, chapter 286, General Acts of 1916. According to the terms of this act arrangements were made for the construction of certain county tuberculosis hospitals in addition to the Hampshire County Sanatorium already established and in operation, and the Barnstable County Hospital about to be opened. Sites have been selected, plans have been drawn and work has been started on several of these institutions. When completed and ready to receive patients they will go a long way toward filling the gap that has existed in our plan for controlling tuberculosis in this State. According to this plan the four institutions under the direct control of this Board — the Rutland, North Reading, Lakeville and Westfield State sanatoria — will be reserved more strictly than ever before for those early and favorable cases of pulmonary tuberculosis for which these institutions were really intended, and which the word “sanatorium” implies. The local tuberculosis hospitals, of which there are now seventeen

in the Commonwealth, will continue to fill their important function of caring for consumptives in the advanced and progressive stages, and for emergency cases. The county hospitals are intended to provide prompt and adequate treatment for patients in all stages of the disease, and particularly for those coming from the smaller cities, towns and villages, isolated districts and agricultural communities. Emergency cases, advanced cases and favorable cases awaiting admission to our State sanatoria will be cared for in these institutions. In addition to this, these new institutions will serve as places where patients provisionally on the list for our State sanatoria may go and be kept under observation to decide upon their fitness to enter a State sanatorium. Our State sanatoria, as mentioned above, will be reserved more and more strictly for patients who are real sanatorium cases and favorable ones in every sense of the word. When these county hospitals are completed and in operation the one important task to complete our tuberculosis scheme will be to provide an institution where the unco-operative patient, and also the careless, ignorant and incorrigible consumptive, can be kept and restrained. Adequate legislation which will permit of his being committed to such an institution will have to be enacted to make this possible. When this is done Massachusetts will stand even more prominently than it does at present in the forefront among the States combating tuberculosis.

TABLE WASTE.

A careful study of table waste has been carried on for several years past at the four institutions under the supervision of this Board. Within the last few months similar work is being urged upon the other public institutions of the State; these have not as yet carried this out in detail.

CLASS OF PATIENTS ADMITTED TO THE STATE SANATORIA.

The Rutland Sanatorium is reserved, as in the past, for patients in the early and favorable stages of the disease. The Westfield Sanatorium is becoming more and more an institution for the care, treatment and education of tuberculous young people and children. The North Reading and Lakeville

Sanatoria will continue to admit only those patients, not necessarily in the incipient stages of tuberculosis, but who at least are regarded as curable or capable of great improvement or ultimate arrest.

LOCAL TUBERCULOSIS HOSPITALS.

During the past year no new hospitals have been added to our list. The Lowell Tuberculosis Hospital and the tuberculosis ward of the Anna Jacques Hospital at Newburyport are nearing completion, however, and will be open to receive patients in the spring. Two hospitals have been closed, — the Everett Tuberculosis Hospital and the tuberculosis ward of the Waltham General Hospital. It is unfortunate that these much-needed beds were given up before the county hospitals were ready to take their place.

SUBSIDY DEPARTMENT.

The amount appropriated to be paid to various cities and towns under the subsidy act (chapter 637, Acts of 1912) for the year 1917 was \$188,979.59. This is a decrease of approximately \$4,000 less than the appropriation for the year 1916. This amount was allowed 82 cities and towns. The number of applications for subsidy was 2,472, which is an increase of 78 over the previous year; 380 of these cases, the subsidy for which amounted to \$20,309.12, upon investigation by our subsidy agent, Louis N. Phaneuf, were not accepted for various reasons.

The amendment to the present subsidy law, according to which subsidy is allowed for certain cases whose sputum does not contain bacilli of tuberculosis, will in the future result in a marked increase in the amount to be paid to cities and towns under the terms of this act. We are of the opinion that great care should be exercised in allowing any further widening of the scope of this act, in that it will tend to make local municipalities avoid their just responsibilities, and will throw an increasing burden upon the Commonwealth.

In accordance with the amended subsidy law (chapter 290, General Acts of 1917) the city of New Bedford requested the

subsidy for certain patients, whose sputum did not show the presence of the bacilli of tuberculosis, cared for at the New Bedford Sanatorium. In accordance with the act this necessitated a survey of the city, which was commenced in July, 1917, under the auspices of the State Department of Health and of this Board. The survey was completed in November, 1917. As a result of this survey it was demonstrated that the New Bedford Tuberculosis Sanatorium provided a bed capacity in excess of the number of beds needed for New Bedford patients with tubercle bacilli in their sputum, so that the State Department of Health and the Trustees of Hospitals for Consumptives made the provision that 75 beds out of a present total of 105 should be reserved for patients with tubercle bacilli in their sputum, leaving 30 beds for patients without a positive sputum, but who, after observation, according to the terms of the act, had been determined to be cases of pulmonary tuberculosis. This ruling may of course make a very decided increase in the total amount of subsidy paid by the Commonwealth of Massachusetts to cities and towns in this State.

If, for instance, the State of Massachusetts grants a subsidy of \$5 a week for certain children and adults who, while undoubtedly tuberculous, are at present in no way a menace to the health of the community, and does this as a wise preventive measure, the question might well be asked why should not this subsidy be granted for defective and mentally deficient children and adults so that the training they need may be better provided; or, again, why a subsidy should not be granted for cases of scarlet fever, diphtheria or other contagious diseases so dangerous to public health. The policy of subsidizing cities and towns for tuberculosis, therefore, is one that should be kept within very definite bounds, and any attempt to broaden its scope given very grave consideration.

TUBERCULOSIS DISPENSARIES.

The influence of tuberculosis dispensaries, established in towns and cities of 10,000 inhabitants or over, is making itself felt. Not only in prompt diagnosis of early cases of consumption, but also in the care of patients discharged from the

State institutions are these dispensaries demonstrating their value. The work of this Board and the four sanatoria under its control will become increasingly efficient as long as close co-operation exists between local boards of health and their dispensaries and the work of the State. This spirit of co-operation is already manifest, and is a most encouraging feature in the progress of the year.

REGULATIONS CONCERNING THE ADMISSION AND DISCHARGE OF PATIENTS AT OUR STATE SANATORIA.

The Rutland State Sanatorium since its opening in 1898 has been reserved for patients in the incipient and favorable stages of the disease. The two rules adopted last year at this sanatorium — namely, the one-month trial regulation and the two-year limit — continue to work satisfactorily. Under the one-month rule every patient admitted to this institution is on trial for a period of one month. If at the end of that time he is found to be unsuited for Rutland he or she is transferred elsewhere. The law limiting the stay of patients to two years is helping to weed out a considerable number of consumptives who had become thoroughly hospitalized, and who had long since made all the gain that was possible at Rutland; by their continued stay other patients urgently in need of treatment were deprived of part of their chance of getting well. The Board is considering the possibility of reducing this two-year limit still further to eighteen months. This would be more in accordance with the custom of sanatoria elsewhere.

The problem of handling patients who have been discharged from our sanatoria for breach of discipline is an ever-present and difficult one. Each patient on entering any State sanatorium is given a plainly printed set of simple rules and regulations which he signs and agrees to obey. There are many patients, however, who apparently through ignorance or deliberate malice do not obey these rules. These patients, after being warned several times, are finally discharged for breach of discipline. In many instances, after their discharge, they realize the folly of their conduct and apply for readmission. While each of these cases is judged on its individual merits and

constitutes a problem by itself, and while it is the custom to give the patient another trial unless the offence that has been committed is too flagrant, the Board feels that in order to have good discipline in these institutions it should be more strict in the future than it has been in the past about re-admitting to any State sanatorium patients whom experience has taught are unwilling or unable to live according to the rules. In view of the increasing number of beds to be provided by the county tuberculosis hospitals and local institutions, and particularly in view of our waiting list, which despite this increased accommodation still remains a distressingly long one, the Board does not feel that any real hardship will be caused by such action, or that the discharge of such patients to local or county institutions will act as a menace to the community.

WAITING LIST.

The waiting list for our sanatoria is a long one. At the present time there are 300 men and women upon this list. It is necessary for men to wait two months and women nearly as long before they can be admitted, while at the Westfield Sanatorium where children are cared for there is an interval of from five to six months after the filing of the application before the patient's name is reached upon the list. It is hoped that at the county hospitals provisions will be made for temporary care of these children, so that treatment in their case may be begun at once, when it is most needed.

SANATORIUM AND HOSPITAL CLASSES.

The system of dividing the patients at our State sanatoria into two groups — the "sanatorium" and the "hospital" classes — has been continued as heretofore with varying results at the different sanatoria. The Board feels that it is proper to be more strict in readmitting patients who have had one opportunity at the State sanatoria and who have not co-operated with the physicians or taken advantage of the treatment offered them there. These are the patients which comprise the hospital class. It is only in special instances,

therefore, that patients who are discharged from our sanatoria as of the hospital class are readmitted. On the other hand, patients who have been in the sanatorium class, and who have co-operated in every way with their physicians, and who have really tried to get well, are on request discharged on parole, which means that should they suffer a relapse later on and need further treatment they can be readmitted without waiting their regular turn on the list. In this way a premium is put upon good behavior and earnestness of purpose at our sanatoria.

The Board still feels that this system of dividing patients into two classes is a good one, and should be continued. As mentioned above, we feel that it is proper to be more strict in readmitting patients who have already had one opportunity and who have failed to take advantage of it.

AFTER-CARE WORK — DISCHARGED PATIENTS.

What Massachusetts Sanatoria have accomplished.

During the past year Miss Bernice W. Billings, after-care worker, and the secretary of the Board have made a detailed study of 1,000 patients discharged from our sanatoria during the years 1912 to 1916, inclusive. The object of this study was to determine as far as was possible exactly what sanatorium treatment in Massachusetts had accomplished in terms of health, and also in terms of dollars and cents. It is very important to bear in mind that, owing to the lack of facilities in county and municipal tuberculosis hospitals for patients in the far advanced stages, over 75 per cent. of these 1,000 cases on which this study was based were in the advanced stages of the disease, and that over 300 of the patients had died after leaving the sanatorium some time during the short interval before Miss Billings was able to visit them. In other words, these 300 patients went home to die among friends. A summary of this work is as follows:—

1. Of 1,056 patients discharged from Massachusetts State sanatoria from May, 1912, to May, 1914, on admission 17 per cent. were incipient, 36 per cent. moderately advanced and 46 per cent. far advanced.

2. On the first visit to these patients in their homes, in each case within three months after discharge from a sanatorium, 28 per cent. were in good condition, 50 per cent. living, 11 per cent. dead and 9 per cent. had left the State or disappeared.

3. At present, meaning by this December, 1916, 29 per cent. were found to be in good condition and at work, 11 per cent. living, 45 per cent. dead and 13 per cent. had disappeared.

4. Of the 312 patients now in good condition and at work, on their admission to a sanatorium 35 per cent. were incipient, 43 per cent. moderately advanced and 22 per cent. far advanced.

5. On discharge these 312 patients were classified as 58 per cent. quiescent or arrested and 30 per cent. as improved.

6. Comparing those patients who stayed at a sanatorium under six months with those who stayed longer than this it was found, as would be expected, that distinctly better results were obtained among those patients whose period of stay at the sanatoria was the longer.

7. The weekly cost to the State of these 1,056 patients was approximately \$9,500. The 312 patients now alive and at work are earning each week approximately \$3,000. The potential earning capacity of certain patients, women and school children, not working for wage, but able to do so, has not been included in this figure.

It was found that over 300, or approximately 33 per cent. of the total number of patients, or nearly 50 per cent. of the total number that Miss Billings visited, were alive and apparently well and working. Some of these patients had left the sanatorium less than a year, but, on the other hand, many had left the sanatorium four or five years ago. These figures, considering the fact that there were over 75 per cent. of advanced cases in this series, showing nearly 50 per cent. of those who were improved by their stay in the sanatoria were able to be considered as wage earners, are certainly encouraging.

In terms of dollars and cents, a conservative estimate, based on what these patients who are now alive and well are earning, which, by the way, does not include the potential earning powers of many women and children, showed weekly earnings of \$3,000. The amount that these patients are earning per

week will go a long way toward offsetting the amount that the State has spent on the total number, and shows conclusively that the investment that the State of Massachusetts is making in sanatoria is a good one both financially and in terms of health.

REPORT ON LARYNGEAL TUBERCULOSIS AT THE MASSACHUSETTS STATE SANATORIA.

I herewith submit my report as consulting laryngologist to the North Reading, Lakeville, Westfield and Rutland State sanatoria.

The treatment of tuberculous complications of the throat at North Reading, Lakeville and Rutland has been handicapped owing to the death of Dr. Burns of North Reading and the resignation of Drs. Glidden and Howes of the Lakeville and Rutland State sanatoria, respectively. These physicians had become expert in diagnosing and treating tuberculous complications of the throat.

I note with particular pleasure and satisfaction the well-equipped room for the examination and treatment of throat cases which Dr. Carl C. MacCorison, superintendent of the North Reading State Sanatorium, has provided in his new medical building, and also heartily commend his interest in this work.

I have made monthly visits at the Rutland State Sanatorium, and have seen on an average 25 patients at each visit. I wish to report excellent results with the use of the galvano-cautery in cases of tuberculosis of the throat and epiglottis at the institution. At the Westfield State Sanatorium Dr. Chadwick places absolute rest of larynx as the most efficacious method of treatment. Twelve operations have been performed on tonsils and adenoids; none on larynx, at Westfield. Dr. MacCorison of the North Reading Sanatorium reports that the form of treatment most efficacious in his sanatorium was rest, simple sprays and inhalations, and that there were no operations performed.

Dr. Coolidge of the Lakeville State Sanatorium reports that 99 cases of laryngeal tuberculosis have been treated at his institution during the past year. He has adopted an excellent routine of examining the throat of every patient with a cough not easily controlled by ordinary methods. As a result of this various tuberculous processes of the throat have been discovered in the incipient stage much sooner than would have been the case had this examination not been made until striking symptoms such as hoarseness, pain, etc., had developed.

ALBERT C. GETCHELL, M.D.,
Trustee.

EX-PATIENTS ON THE PAY ROLL.

The Board still continues its policy of offering employment to patients who on discharge are found to be suited for work which the sanatorium can provide. At the North Reading Sanatorium during the past year there have been 17; at Westfield, 59; at Lakeville, 15; at Rutland, 169, making a total of 260 ex-patients from our State sanatoria who have been given employment and still have been kept under medical supervision. A certain number of these ex-patient employees still carry the germs of tuberculosis in their sputum, even though the case may be an arrested one, without constitutional signs and symptoms of the disease. Although it is coming to be the consensus of expert medical opinion on this subject that the amount of danger caused by an intelligent and trained consumptive, even with a positive sputum, in mingling with healthy adults is very slight, it is obvious that there should be some better means than now exist of segregating these employees by providing separate, and, if possible, outdoor sleeping quarters. The Board will ask this year, as it did last, for an appropriation sufficient to provide adequate sleeping quarters for these ex-patient employees.

DENTISTRY.

The question of giving proper care to the patients' teeth is a difficult one, while the need of proper dentistry is recognized to be of the greatest importance for the welfare of the tuberculous patient. At each of our State sanatoria there is an arrangement by which a dentist comes from a near-by city or town at stated intervals to take care of the more urgent cases. This arrangement at best is unsatisfactory, and leaves an immense amount of important work undone. Last year the Board asked for an appropriation sufficient to cover the salary and expenses of a dentist to devote his entire time to the care of the patients' teeth at our State sanatoria. This was refused. The Board would again ask for this appropriation, and would emphasize its importance, particularly in the case of children at the Westfield State Sanatorium.

X-RAY PLANT.

There is perhaps no single agent which will give more valuable information in noting the progress of any given case of pulmonary tuberculosis than the X-ray. In addition to an X-ray plant at each institution, however, a physician specially trained and qualified by experience to handle this complex and delicate apparatus and to interpret his findings properly is a necessary adjunct. Especially in the case of children and in using the collapse treatment of the lung by nitrogen gas, known as artificial pneumothorax, are X-ray observations practically essential. The Board feels, therefore, that each institution should be provided with a suitable X-ray plant, and that suitable assistants should be engaged to do this work.

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past, and has steadily increased. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and anti-tuberculosis workers, not only in Massachusetts but all over the country. The office of the Board has become an information bureau to which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the State work. Members of the Board, the secretary and the four superintendents have given many informal talks on the subject of tuberculosis to the patients in the sanatoria, and outside, at women's clubs, meetings of physicians and other public meetings. In addition to this articles of medical and scientific interest, based on work carried on in the sanatoria, have been published in medical journals from time to time. A list of such articles is appended.

The Governor appointed the chairman and secretary of the Board as delegates to represent the Commonwealth at the meeting of the National Tuberculosis Association held in Cincinnati, Ohio, last May. The chairman and superintendents, as has been the custom in the past, were appointed delegates to the meeting of the American Sanatorium Association held at the Mount McGregor Sanatorium, New York.

The members of the Board, the secretary and the superintendents of the four State sanatoria were likewise appointed as delegates to the meeting of the New England Tuberculosis Conference held in Rutland, Vt., Oct. 4 and 5, 1917. At each of these meetings the chairman, secretary and some of the superintendents took active part in the program and in the discussion of the papers presented. Such meetings as these are of immense practical benefit and a source of inspiration to those who attend them. Not only is much information and valuable knowledge gained from the stated papers on the program, and especially from intimate talks with those who are doing similar work in other States, whereby Massachusetts is the gainer, but also it emphasizes the fact that Massachusetts is well in the forefront in its campaign against tuberculosis, and is able to show the way in many respects to other States.

The following articles based on medical, social and economic phases of anti-tuberculosis work in our State sanatoria and elsewhere have been written and published during the past year by the superintendents of our sanatoria and their assistants and the secretary of the Board:—

Dr. Newell B. Burns:—

Application of the Complement Fixation Test to Tuberculosis.

(Journal American Medical Association, May 12, 1917.)

Foreign Body (Bone Fragments) in the Bronchus. (Journal American Medical Association, April 28, 1917.)

Some Experiments with Tuberculosis Sputum Twenty-two Years Old. (American Review of Tuberculosis, October, 1917.)

Dr. Newell B. Burns and Albert E. Young:—

Coagulation Time of Blood Specimens from Tuberculous Patients.

(American Journal of the Medical Sciences, December, 1917.)

Dr. John B. Hawes, 2d:—

Tuberculosis in Infancy and Childhood. (Interstate Medical Journal, Vol. XXIV., No. 6, 1917.)

"Constitutional" *versus* "Local" Signs and Symptoms in the Diagnosis of Early Pulmonary Tuberculosis. (Boston Medical and Surgical Journal, March 1, 1917.)

Definitions and Diagnostic Standards in the Diagnosis of Pulmonary Tuberculosis in Adults. (Boston Medical and Surgical Journal, Aug. 2, 1917.)

Compromising with Consumptives. (Medical Record, Sept. 15, 1917.)

Dr. Henry D. Chadwick: —

Tuberculosis in School Children. (Transactions American School of Hygiene Association, June 8, 1917.)

Dr. Henry D. Chadwick and Dr. Roy Morgan: —

Diagnosis of Tuberculosis in Children. (Transactions Massachusetts Medical Society, June, 1917.)

Dr. Henry D. Chadwick and H. W. Smith, steward: —

Cafeteria Service for Tuberculosis Patients. (Modern Hospital, Dec. 19, 1917.)

PRISON LABOR.

The use of prison labor at the Rutland State Sanatorium has turned out to be a remarkably successful experiment. It has been carried on for the past two years at this institution, as a result of which a large amount of land has been reclaimed and made of value for agricultural and other purposes which could never have been done without labor from this source. The Board would recommend, therefore, that the use of prison labor at our State sanatoria be extended to the other three institutions under its supervision if this is found to be practicable. At the Lakeville Sanatorium it would be a comparatively simple matter to obtain such labor from the State Farm at Bridgewater, and similar arrangements could doubtless be made for the North Reading and Westfield sanatoria with advantage to all concerned.

TUBERCULOSIS AND THE WAR.

The question of tuberculosis and the war is one of vital importance, not only to those of us who are especially engaged in tuberculosis work, but also to the Commonwealth and to the nation. While in Massachusetts no great need has as yet arisen to provide additional quarters for this purpose, there is not the slightest doubt, from the cases already found by the examination of those of draft age, that before the war is ended there will be a large number of men from the forces of the army or the navy who have broken down under the stress and strain of military service, and have developed active tuberculous disease and who are in urgent need of treatment. There must be adequate provision for these men, and there must be no delay in admitting them to the proper institutions. While it would

be possible to build additional pavilions and wards of simple construction at our State sanatoria for such patients at comparatively short notice, neither the kitchen facilities nor the power nor administrative plants are sufficient, in any of our sanatoria, to stand such a sudden increased strain. We are asking, therefore, for an appropriation to provide a new kitchen and service building at the Rutland Sanatorium, and to increase the power plant and administrative buildings at the other sanatoria in order to be prepared to meet the demand that will inevitably be made upon the facilities of our Massachusetts sanatoria. The Board cannot overemphasize the importance of this subject and the need of preparedness in this direction.

The Board wishes to here record its regret at the death of two valued members on the staff of its sanatoria. Dr. William F. Smith, assistant physician at the Rutland State Sanatorium, died May 15, 1917. He was capable, earnest and loyal to the institution and to this Board. Dr. Newell B. Burns, first assistant physician and assistant superintendent at the North Reading State Sanatorium, died Oct. 27, 1917. In addition to having given many years of faithful service of the very highest grade to the North Reading Sanatorium, to this Board and to the State of Massachusetts, Dr. Burns was known widely throughout the country for his scientific investigations and writings in tuberculosis work. His loss is keenly felt not only by this Board and by all those who knew him, but by the medical profession.

ACKNOWLEDGMENTS.

The Board hereby acknowledges its indebtedness to the State Board of Charity, the State Department of Health, the Supervisor of Administration, the State Agricultural College, Bureau of Animal Industry, Prison Commission and others for much timely advice and assistance in matters pertaining to its work.

It is only fair to call attention to the extra work which has been thrown upon the superintendents, physicians and other employees at our State sanatoria by the exigencies of the present war. As would naturally be expected a number of the assistant physicians have entered the service, so that changes in the personnel of the staff of each institution have been

frequent. Despite this fact those physicians who have remained have borne these additional burdens cheerfully and well, and the Board desires to express its appreciation of their work. The Board feels very strongly that the work that its superintendents and physicians are doing is just as important for the welfare of the country and for its success in the present war as the work of other, perhaps more fortunate, physicians who have been able to enter military service.

NORTH READING STATE SANATORIUM.

There has been an average of 199.47 patients this year.

A new power house has been completed and a garage has been built almost entirely of material taken from the former power house. Aside from this there have been no striking changes at the North Reading Sanatorium.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$45,474 28
Religious instruction,	1,425 00
Travel, transportation, etc.,	2,060 00
Food,	45,517 00
Clothing and materials,	405 75
Furnishings,	4,061 48
Medical and general care,	2,658 00
Heat, light and power,	10,217 25
Farm and stable,	4,711 00
Grounds,	755 00
Repairs, ordinary,	2,750 00
Repairs and renewals,	2,525 00
	<hr/>
	\$122,559 76

For special appropriations:—

Buildings to accommodate superintendent, medical staff, night nurses and business offices,	\$75,104 19
Hospital buildings,	76,269 47
Installation of fire-protective system,	18,057 10
	<hr/>
	\$169,430 76

LAKEVILLE STATE SANATORIUM.

The only new construction during the past year has been the replacement of the rendering house, which was destroyed by

fire, and the erection of a four-stand garage and of a brick smokestack to replace the worn-out steel stack.

The farming activities have been somewhat more extensive and the results have been fair.

The tuberculosis clinic at the office of the Middleborough Board of Health has been continued by sanatorium physicians, with the following results:—

Suspicious (kept under observation),	8
Incipient,	—
Moderately advanced,	9
Advanced,	3
Arrested (ex-patients),	2
Non-tuberculous,	5
Number examined,	27
	<hr/>
	54

The average number of patients at the sanatorium for 1917 was 263.45.

There is urgent need at this sanatorium for improved housing conditions for employees, and likewise there is a great need of necessary buildings to shelter the farm equipment. Appropriations for these purposes have been asked, but have been as often refused.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$66,000 00
Religious instruction,	1,331 00
Travel, transportation, etc.,	4,926 93
Food,	32,315 30
Clothing and materials,	100 00
Furnishings and household supplies,	5,302 63
Medical and general care,	4,016 19
Heat, light and power,	13,311 39
Farm and stable,	35,353 08
Grounds,	892 74
Repairs, ordinary,	6,937 59
Repairs and renewals,	4,600 00
	<hr/>
	\$175,086 85

For special appropriations: —

Addition to power plant and laundry,	\$36,441 74
Pavilion for 20 patients,	3,600 00
Pavilion for 10 ex-patient employees,	2,500 00
Storehouse,	6,000 00
Pavilion for 6 women,	2,000 00
	<hr/>
	\$50,541 74

WESTFIELD STATE SANATORIUM.

There has been an average of 265 patients this year.

The one great improvement that has been made during the year has been the construction of filter beds twice the area of those formerly in use.

The farm has been more extensively cultivated, and 1,100 bushels of potatoes have been raised, — nearly enough to last until the new crop is available.

The school maintained at the institution for 125 children has had an active and successful year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Salaries and wages,	\$59,258 00
Religious instruction,	1,290 00
Travel, transportation, etc.,	3,411 00
Food,	42,096 00
Clothing and materials,	1,478 00
Furnishings and household supplies,	11,205 25
Medical and general care,	2,760 00
Heat, light and power,	14,802 50
Farm and stable,	17,600 95
Grounds,	1,177 00
Repairs, ordinary,	12,270 00
Repairs and renewals,	6,485 00
	<hr/>
	\$173,833 70

For special appropriations: —

Dormitory for ex-patient employees,	\$10,000 00
Garage,	3,500 00
Water tank and hydrants,	3,000 00
Purchase of land,	1,500 00
Fireproof vault,	2,500 00
	<hr/>
	\$20,500 00

RUTLAND STATE SANATORIUM.

In September, 1917, Dr. Elliott Washburn, superintendent of the Rutland State Sanatorium, resigned to become director of Municipal Hospitals and Dispensaries of Kansas City, Mo. The Board wishes to express its appreciation of the years of faithful service that Dr. Washburn gave to this Board and to the State of Massachusetts. Dr. Ernest B. Emerson, former superintendent of the North Reading State Sanatorium, and recently medical director of the State Farm at Bridgewater, was appointed superintendent, and began his duties Oct. 16, 1917.

The daily average number of patients has been 350, an increase of 2 over the previous year. The Board is glad to note the gradual increase in the proportion of really incipient cases at the Rutland State Sanatorium, which for the first time in the history of the institution has been over 40 per cent. this year. It is encouraging to note that the method of making application for the admission of patients to this institution, formerly done by a special board of paid examiners, but since 1910 open to the entire medical profession of this State, is constantly producing better results, so that in the past year a higher proportion of incipient cases was admitted than ever occurred under the old system.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Salaries and wages,	\$80,000 00
Religious instruction,	1,400 00
Travel, transportation, etc.,	5,830 00
Food,	86,019 00
Clothing and materials,	106 00
Furnishings and household supplies,	11,540 00
Medical and general care,	6,697 00
Heat, light and power,	33,378 00
Farm and stable,	16,357 00
Grounds,	105 00
Repairs, ordinary,	6,015 00
Repairs and renewals,	6,650 00
	<hr/>
	\$254,097 00

For special appropriations: —

Prison labor,	\$5,000 00
Building and equipping kitchen, service and storehouse building,	73,000 00
Installation of fireproof vault,	3,000 00
Pavilion for employees,	6,000 00
	<hr/>
	\$87,000 00

Respectfully submitted,

ARTHUR K. STONE, M.D.
CHARLES J. DOWNEY, M.D.
GEORGE A. DUNN.
ALBERT C. GETCHELL, M.D.
SYLVIA B. KNOWLTON.
DANIEL L. PRENDERGAST.
SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MacCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
EARLE C. WILLOUGHBY, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
LELAND M. FRENCH, M.D.,	.	.	.	.	<i>Physician.</i>
JOHN E. McMULLEN,	.	.	.	.	<i>Bacteriologist.</i>

ANNA C. O'DWYER,	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	<i>Supervisor.</i>
EDWARD W. PERRY,	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1917.

The records show that during the year 487 patients have been treated and 287 have been admitted. There were 72,809 days of treatment in the year as against 73,124 days of treatment for the preceding year. The lowest daily census was 193 and the highest 206. The daily average number of patients was 199.47, which is .004 per cent. less than that of the preceding year.

There have been admitted during the year 12, or 4.10 per cent., incipient; 137, or 47.73 per cent., moderately advanced; 136, or 47.38 per cent., advanced; and 2, or .69 per cent., not determined. There has been a daily average of 78.75 bed cases, — approximately 40 per cent. of the daily population.

Of the patients discharged the average duration of residence in the sanatorium was 229 days, as opposed to 240 days for the preceding year; the longest residence of any person was 2,735 days, and the shortest, 2 days.

Of the 287 cases admitted, 229, or 79.79 per cent., were inside workers. Two hundred and six were admitted from cities and towns having a population of 25,000 or more, as follows: Brockton, 3; Brookline, 1; Boston, 100; Cambridge, 1; Chelsea, 14; Everett, 6; Fitchburg, 2; Haverhill, 2; Lawrence, 4; Lowell, 25; Lynn, 14; Malden, 7; Medford, 4; Newton, 1; Quincy, 1; Revere, 6; Somerville, 12; Waltham, 1; Worcester, 2.

Thirty-nine cases have been supported from private funds, 245 by cities and towns, 132 entirely by the State, and 4 private cases have either become State or town charges. There were

remaining November 30, 9 private cases, 91 city or town cases, 57 State cases and 43 unknown cases.

Of the patients discharged during the year, 95 male and 76 female had gained in weight, the total gain being 1,915.50 pounds; the average male gain was 10.55 pounds, and the average female gain was 13.05 pounds; 11 patients remained stationary, 44 had lost, 49 had died and 12 not considered.

Nine patients, or 3.14 per cent., have been discharged "arrested;" 12, or 4.19 per cent., "apparently arrested;" 30, or 10.48 per cent., "quiescent;" 86, or 30.06 per cent., "improved;" 60, or 20.97 per cent., "unimproved;" 49, or 17.13 per cent., have died; 38, or 13.28 per cent., were "not considered" (duration of stay being less than one month); and 2, or .69 per cent., were not tuberculous.

The average age was 31.76 years. One hundred and thirty-nine were foreign born, and 84 were American born, but of foreign parentage. Twenty patients admitted have been previously treated at this sanatorium.

The total cost of maintenance for the year ending Nov. 30, 1917, was \$110,784.69; deducting \$1,281.66 from miscellaneous sources leaves a net amount expended for maintenance of \$109,503.03. The average per capita cost per week is \$10.56. There has been collected from private patients \$2,785.66, and from cities and towns, \$23,049.29. Further details will be found in succeeding pages of this report.

MEDICAL REPORT.

During the winter months weekly clinics were held at the sanatorium for advanced students of the Tufts Medical School.

Routine treatment of former years has been continued.

LABORATORY REPORT.

The routine clinical laboratory work has involved 1,677 sputum examinations, of which 78 per cent. were positive; also 409 urinalyses; 11 blood examinations; 5 pleuritic fluids; 6 genitourinary smears; and 1 stomach contents. In addition to the above, 84 samples of milk were tested for fat, specific gravity and solids.

WORK PERFORMED.

The work performed by patients during the year was as follows: 8,479 hours were devoted to housework; 950 hours to sewing; 1,596 hours to ward work; 1,825 hours to dining-room work; 1,538 hours to gardening, picking and preparation of garden truck and small fruits; 2,077 hours to clerical work; 180 hours to painting of screens; 416 hours to the care of animals; 730 hours to barbery; 60 hours to painting, repairing and odd jobs.

The following articles have been made up by the patients: 221 sheets, 234 pillow cases, 125 hand towels, 435 dish towels, 224 laundry bags, 94 tablecloths, 11 spray curtains, 12 ice-bag covers, 13 hot-water bag covers, 18 T-bandages.

In the industrial room the following work was performed: 154 hours given to canvas work, repairing chairs; 3 wooden bed rests, 2 wooden thermometer trays, 18 bird houses, 1 tabernacle. In addition to the above the female patients made up 39 eye bandages, 14 wash mits, 26 pairs of bed socks and 1 sweater for the Red Cross.

RECOMMENDATIONS.

Our greatest need at present is a suitable building to relieve the overcrowded conditions existing in our present administration building. Our nurses are obliged to live three and four in a room. The night nurses are housed in this building, on the same floor with the day nurses and domestics. They are living in crowded quarters and are unable to obtain proper rest under the existing conditions. We are unable to provide a reception room for our nurses and staff; consequently, when off duty there is no available place where they may go for recreation. The isolation of our institution, together with the above-mentioned conditions, make it impossible for us to secure and retain efficient nurses and female employees. We have outgrown our present office, staff dining room and fire-proof vault, which has been condemned by the Commissioner of Public Records.

A new building as suggested last year, to accommodate the superintendent and family, medical staff and night nurses,

would enable us to use the present administration building for nurses and female employees, and provide a suitable reception room for their use.

I would recommend that the sum of \$75,104.19 be appropriated for the erection of a new building, according to the plans submitted last year.

I feel that the matter of increased hospital accommodations in our male unit should be given serious consideration. During the past winter we had a daily average of 40 bed cases in this unit. As our hospital ward will accommodate but 29 patients we were compelled to treat many bed cases on the open pavilion, and in several instances we were forced to advise the removal of certain patients owing to the lack of proper facilities.

I would recommend that the sum of \$76,269.47 be appropriated for the erection and equipment of a new hospital building according to the plans submitted last year, this building to accommodate 50 patients.

Our present equipment for fire protection I believe to be very inadequate. The buildings east of the power plant are entirely unprotected, owing to lack of sufficient water pressure. Our buildings, with the exception of the power plant, are wooden constructions throughout. In view of the frequency of brush fires in our neighborhood, I feel that the matter of fire protection should be brought to your attention. Our water being very hard has given us trouble in the power plant, owing to excessive scaling in the boilers; therefore I would recommend that the sum of \$18,057.10 be appropriated for the installation of a fire-protective system, for the protection of the buildings, and to provide for the irrigation of crops in the future; also to provide brook water for the boilers.

IMPROVEMENTS.

The power house and medical building, for which appropriations were made by the Legislature in 1916, have been completed.

Additional concrete walks have been laid about the buildings.

FARM.

Although the acreage under cultivation was increased by about five acres, our crops as a whole totaled less than those of the previous year. A cold, wet spring, followed by a prolonged midsummer drouth and the very early frost, practically ruined the bean, corn, cabbage and squash crop.

MEDICAL STAFF.

On the twenty-seventh day of October Dr. Burns passed away, after an illness of twelve weeks. Dr. Burns had occupied the position of assistant superintendent for six years. He was a man of unusual qualities, a great student, efficient, sympathetic and much loved by the patients and employees. His loss will be greatly felt by the institution.

Dr. William C. Jensen resigned on June 18, with the intention of entering the service. Dr. Earle C. Willoughby, formerly assistant physician at the State Infirmary, was appointed to fill the vacancy. In October Dr. Willoughby was promoted to the position of assistant superintendent.

Dr. Leland M. French was temporarily appointed as assistant physician.

Albert E. Young, our bacteriologist, passed away on July 10, 1917. Mr. Young came to the sanatorium as a patient in October, 1910. While undergoing treatment he devoted as much time as possible to the study of bacteriology, pathology and chemistry. In 1912 he became technician in our laboratory, and in a very short time his studies qualified him for the position of bacteriologist. Mr. Young was a man of unusual ability, conscientious, thorough and a hard worker. His death was a great loss to the institution.

RELIGIOUS SERVICES.

The Rev. Henry M. Goddard, Protestant chaplain, passed away on May 12. Mr. Goddard had always shown a deep interest in our patients. He was a man of broad sympathies and devoted to his work. He was succeeded by the Rev. Frederick Walsh.

Rev. Father Francis Walsh was transferred to the parish of the Immaculate Conception at Revere the latter part of November. Father Walsh had faithfully administered to the Catholic patients for the past six years. His resignation was a matter of regret to us all, and I feel that I have met with a direct personal loss. His work at the sanatorium has been taken over by the Rev. Father Whalen and the Rev. Father Drapeau.

ACKNOWLEDGMENTS.

To our chaplains, Rev. Father Francis Walsh, Rev. Father Whalen, Rev. Father Drapeau, Rev. Henry M. Goddard, Rev. Frederick Walsh, Rabbi Bloom and Rev. Moses I. Robinson, I wish to extend our thanks for their unfailing attention to the spiritual needs of our patients. I also wish to thank the Rev. Dr. Charles Henry for his services given in behalf of the patients of the Episcopal faith.

During the year we have received various contributions of books, magazines, flowers and clothing, for which we are very grateful. We are especially indebted to the Winchester branch of the Needlework Guild of America for gifts of clothing; also to Mr. Mayer of the Select Picture Exchange and Mr. Farrell of the American Feature Film Company for the use of films, and to the Sunday school of the North Reading Congregational Church for Christmas gifts of books and flowers.

To my coworkers I wish to express my appreciation for the efficient manner in which they have performed their duties and the loyalty displayed.

I am deeply grateful for the continued confidence that you, the trustees, have shown in my effort to carry on the work of the sanatorium.

Respectfully submitted,

CARL C. MACCORISON, M.D.,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1917:—

CASH ACCOUNT.	
Balance Dec. 1, 1916,	\$145 23
<i>Receipts.</i>	
<i>Institution Receipts.</i>	
Board of inmates:—	
Private,	\$2,785 66
Cities and towns,	23,049 29
	<hr/> \$25,834 95
Sales,	1,281 66
Miscellaneous receipts,	187 11
	<hr/> 27,303 72
<i>Receipts from Treasury of Commonwealth.</i>	
Maintenance appropriations:—	
Balance of 1916,	\$5,714 49
Advance money (amount on hand November 30),	6,500 00
Approved schedules of 1917,	99,164 72
	<hr/> 111,379 21
Special appropriations,	\$11,354 99
Less return,	1 36
	<hr/> 11,353 63
	<hr/>
Total,	\$150,181 79
<i>Payments.</i>	
To treasury of Commonwealth, institution receipts,	\$27,303 72
Maintenance appropriations:—	
Balance November schedule, 1916,	\$5,918 22
Eleven months' schedules, 1917,	99,164 72
November advances,	5,214 84
	<hr/> 110,297 78
Special appropriations:—	
Approved schedules,	\$11,353 63
Less advances last year's report,	58 50
	<hr/> 11,295 13
Balance Nov. 30, 1917:—	
In bank,	\$950 67
In office,	334 49
	<hr/> 1,285 16
	<hr/>
Total,	\$150,181 79

MAINTENANCE.

Appropriation, current year,	\$111,500 00
Expenses (as analyzed below),	110,784 69
	<hr/>
Balance reverting to treasury of Commonwealth,	\$715 31

Analysis of Expenses.

Salaries, wages,	\$42,984 95
Religious instruction:—	
Catholic,	\$600 00
Jewish,	306 00
Protestant,	450 20
	<hr/>
Travel, transportation and office expenses,	1,356 20
Food,	2,887 94
Clothing and materials,	38,100 30
Furnishings and household supplies,	229 65
Medical and general care,	3,587 72
Heat, light and power,	2,442 41
Farm and stable,	9,751 41
Grounds,	4,643 51
Repairs, ordinary,	596 63
Repairs and renewals,	2,548 88
	<hr/>
Total expenses for maintenance,	1,655 09
	<hr/>
Total expenses for maintenance,	\$110,784 69

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1916,	\$11,354 99
Expended during the year (see statement annexed),	\$11,353 62
Reverting to treasury of Commonwealth,	1 36
	<hr/>
	11,354 99

Balance Nov. 30, 1917, —

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,285 16
November cash vouchers (paid from advance money), account of maintenance,	5,214 84
Due from treasury of Commonwealth from available appropriation, account of November, 1917, schedule,	5,119 97
	<hr/>
	\$11,619 97

Liabilities.

Schedule of November bills,	\$11,619 97
---------------------------------------	-------------

PER CAPITA.

During the year the average number of inmates has been 199.47.

Total cost for maintenance, \$110,784.69.

Equal to a weekly per capita cost of \$10.6806.

Receipt from sales, \$1,281.66.

Equal to a weekly per capita of \$0.1236.

All other institution receipts, \$26,022.06.

Equal to a weekly per capita of \$2.508.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Improving power plant,	Acts 1916, chap. 114,	\$21,880 00	\$10,050 43	\$21,879 76	\$0 24 ¹
Storehouse and root cellar,	Acts 1916, chap. 114,	1,500 00	48 75	1,499 73	27 ¹
Medical building,	Acts 1916, chap. 114,	4,665 00	1,254 45	4,664 15	85 ¹
		\$28,045 00	\$11,353 63	\$28,043 64	\$1 36 ¹

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

CARL C. MACCORISON,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate:—

Acres, 101.75; value,	\$4,901 29	
Buildings,	153,707 38	
Total land and buildings,		\$158,608 67
Personal estate,		57,346 60
Grand total,		\$215,955 27

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1908:—

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	112	88	200
Number received during the year,	166	121	287
Number discharged or died during the year,	163	123	286
Number at end of the fiscal year,	115	86	201
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	112.77	86.70	199.47
Average number of officers and employees during the year, .	41.64	40.38	82.02

Expenditures.

Current expenses: —

1. Salaries and wages,	\$42,984 95	
2. Clothing,	229 65	
3. Subsistence,	47,851 71	
4. Ordinary repairs and improvements, .	4,203 97	
5. Office, domestic and outdoor expenses,	15,514 41	
Total,	<hr/>	\$110,784 69

Extraordinary expenses: —

1. Improving power plant,	\$10,050 43	
2. Storehouse and root cellar,	48 75	
3. Medical building,	1,254 45	
Total,	<hr/>	11,353 63

Grand total, \$122,138 32

Summary of Current Expenses.

Total expenditure,	\$122,138 32
Deducting extraordinary expenditures,	11,353 63
	<hr/>
	\$110,784 69
Deducting amount of sales,	1,281 66
	<hr/>
Total,	\$109,503 03

Dividing this amount by the daily average number of patients, 199.47, gives a cost for the year of \$548.97, equivalent to an average weekly net cost of \$10.56.

STATISTICAL TABLES.

TABLE 1. — *Admission and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1916,	112	88	200
Number of patients admitted Dec. 1, 1916, to Nov. 30, 1917, inclusive.	166	121	287
Number discharged Dec. 1, 1916, to Nov. 30, 1917, inclusive,	163	123	286
Number of deaths (included in preceding item),	28	21	49
Number remaining in sanatorium Nov. 30, 1917,	115	86	201
Daily average number of patients,	112.77	86.70	199.47

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	84	52	136
Single,	76	61	137
Widowed,	6	8	14
Divorced,	—	—	—
Totals,	166	121	287

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	11	19	30
20 to 30 years,	62	57	119
30 to 40 years,	37	28	65
40 to 50 years,	34	15	49
Over 50 years,	22	2	24
Totals,	166	121	287

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	71	30	26	59	16	18	130	46	44
Other New England States,	9	7	8	5	6	5	14	13	13
Other States,	2	4	6	2	1	2	4	5	8
Total native,	82	41	40	66	23	25	148	64	65
Other countries (22),	84	124	124	55	96	86	139	220	210
Unknown,	—	1	2	—	2	10	—	3	12
Grand totals,	166	166	166	121	121	121	287	287	287

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	100
Lowell,	25
Chelsea,	14
Lynn,	14
Somerville,	12
Other cities and towns,	122
Total,	287

TABLE 6. — *Occupation of Cases admitted.*

Sixty-three occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	5	7	12
Moderately advanced,	84	53	137
Advanced,	76	60	136
Non-tuberculous,	—	—	—
Not determined,	1	1	2
Totals,	166	121	287

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	5	4	9
Apparently arrested,	9	3	12
Quiescent,	18	12	30
Improved,	49	37	86
Unimproved,	31	29	60
Died,	28	21	49
Not considered,	22	16	38
Non-tubercular,	1	1	2
Totals,	163	123	286

TABLE 9. — *Deaths.*

Males, 28; females, 21; total, 49. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D., *Superintendent.*
GEORGE M. SULLIVAN, M.D., *Assistant Superintendent*
and Physician.
MINOT W. GALE, M.D., *Physician.*

MRS. HARRIET M GASSETT, *Matron.*
WILLIAM R. RAY, *Chief Engineer.*
WILLIAM G. ATKINSON, *Farmer.*

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1917.

During the year 1917, 398 cases were admitted to the sanatorium, which number, with the 251 patients remaining in the sanatorium at the beginning of the year, makes a total of 649 cases cared for. The daily average number of patients for the year was 263.45, a slight increase over the preceding year.

The sanatorium afforded a total of 96,158 days of treatment, which is practically the same as for the preceding year.

Of the 398 cases admitted 2, or one-half per cent., were incipient; 146, or 37 per cent., were moderately advanced; 242, or 61 per cent., were advanced; and 8 cases were either not classified or not examined. The daily average number of bed patients, 84.6, is an increase of 13 over the preceding year, showing plainly that the class of cases which we are now receiving is worse rather than better than in previous years. The record of discharges, however, makes a little better showing than 1916, 10 per cent. being arrested or apparently arrested, and 4 per cent. quiescent.

The average length of stay of the 378 patients discharged was 230.52, the longest residence being 1,979 days, and the shortest, 1 day.

The cases admitted from Boston in 1917 numbered 135 against 219 in 1916; the cases from Brockton in 1917 numbered 27 against 18 in 1916; the Fall River cases this year numbered 37 against 25 in 1916; the New Bedford cases for 1917 numbered 17 against 4 for 1916; the Quincy cases have dropped from 20 to 10; the Taunton cases have increased from 4 to 5; the Middleborough cases have increased from 7 to 12; the

Marlborough cases have increased from 3 to 11; and the Worcester cases from 6 to 11.

Of the 649 patients cared for 57 were supported by private funds, 344 were town cases, 182 were State cases, and 66 settlements were undetermined.

Of the 378 patients discharged 192 gained in weight an average of 13.95 pounds. The greatest gain for a man was 64 pounds, and for a woman 43 pounds.

MEDICAL REPORT.

The medical care of patients during the past year has been the same as in former years. An attempt has been made to hold the patients up to the mark in their appreciation of the importance of a carefully regulated routine, and in their obedience to the daily schedule of treatment, which is put into the hands of every patient in printed form.

Out-patient work has been continued during the year, twelve examinations having been made at the sanatorium at the request of physicians or of outside patients, and the sanatorium doctors have continued their services at the free tuberculosis clinic at the office of the Middleborough Board of Health.

Of 27 cases examined 8 were suspicious and kept under observation, 9 moderately advanced, 3 advanced. The remainder were non-tuberculous or ex-sanatorium patients.

COMPLICATIONS.

A more systematic study than formerly of the diseases complicating pulmonary tuberculosis has been made during the past year, an attempt having been made to detect, if possible, laryngeal tuberculosis in the early stage. Examinations have been made of all throats in which cough was not controlled by ordinary measures, with the result that many have been found which when cleaned up appear very suspicious of tubercular laryngitis. In these cases cough has been relieved and suspicious areas have cleared up under palliative local treatment regularly applied.

Sixty-six cases of tubercular laryngitis have been found among the men and 33 among the women. Fifteen cases of

hemorrhoids, 9 cases of fistula in ano, 3 cases of pleurisy with effusion, and 2 cases of hydropneumothorax were among the other complications encountered during the year.

During the year 2,374 sputum examinations were made, of which 925 were positive and 1,449 negative. Of 365 urinalyses 12 showed albumen and two albumen with casts. Tubercle bacilli were found in urinary sediments in two cases.

DISCIPLINE.

A few cases of breach of discipline have been encountered during the year serious enough to call for the immediate dismissal of patients, and in several cases the patients who have become troublesome on account of a wrong mental attitude toward the sanatorium have been made to realize the futility of continuing treatment which they did not wholly respect, and have voluntarily left the sanatorium and sought treatment elsewhere.

WORK PERFORMED.

The class of work performed by patients has not changed from former years, but a larger number of willing workers among the convalescents has been found this year than formerly, and employed in the dining-room service when their condition warranted their discharge as patients. The outside work performed by patients during the year amounted to 2,300 work hours; the inside work aggregated 22,759 hours.

RELIGIOUS SERVICES.

Regular weekly services have been held at the sanatorium by the Protestant and Catholic chaplains, and fortnightly by the Jewish chaplain.

Acting upon the conviction that sanatorium patients received more harm than good from the allowance of extended holiday vacations at the Jewish Passover and New Year, and at Christmas and Easter, great pains have been taken to bring to the patients in the sanatorium the religious observations which they would seek if allowed to go home.

The sanatorium incurs a considerable expense to engage a special clergyman and to arrange for the special Jewish ceremonies at New Year's and Passover. High Mass was sung at

Christmas and all joined in a Christmas entertainment, the happier for their co-operation.

A little more money should be appropriated for the religious services of the Jews.

IMPROVEMENTS.

During the year a commodious and comfortable garage has been built to hold four machines. The small rendering house, which was destroyed by fire, has been replaced, and a fine brick stack has been built to replace the old worn-out steel stack.

The need of the rendering house and the smokestack came in the nature of emergencies, on account of which transfers were made by the Governor and Council from the contingent fund.

FARM.

The farming operations of the year have been fairly successful. The entire milk supply of the sanatorium has been produced at home. The herd has been tuberculin tested every three months. The most valuable reactors have been segregated and those of less value slaughtered. A pasteurizer has been installed with sufficient capacity for the entire milk supply.

The cold, late spring with excessive rains, which delayed early planting, gave opportunity for improving the land by the removal of boulders and stumps before planting was done. The early frosts at the end of the season injured the late crops to a considerable extent, but only a small proportion was wholly destroyed.

The poultry and swine made a fairly good showing for the year.

RECOMMENDATIONS.

Addition to the Power Plant and Laundry.—The need of immediate action in enlarging the capacity of our power plant grows more urgent every day, and the sum asked for to accomplish these improvements last year is no longer sufficient for the work. The additional boiler, the laundry machinery, and the 10-ton refrigerating engine asked for last year will now require the expenditure of \$36,000.

General Storehouse.—The request made last year for \$5,000

for a general storehouse is repeated this year, although increased to \$6,000.

Pavilion for 20 Patients.—This small pavilion which could have been built last year for \$3,000 is again requested at an increased cost of \$3,600.

Improvements at the Dairy Farm.—The dwelling house at the dairy farm is too valuable to neglect longer. The present conditions under which this house is occupied by two families and from four to seven men are hardly decent, and the expenditure of \$2,500 should be made to furnish bathrooms and heating apparatus.

Farm Implement Building.—One of the greatest needs of the sanatorium farm is a building for the proper protection of farm equipment. At present much of the machinery is left exposed when not in use, under which condition it deteriorates very fast. An expenditure of \$1,500 is recommended for the erection of a suitable implement building.

MEDICAL SERVICE.

On Sept. 30, 1917, Dr. Edson W. Glidden, 2d, assistant superintendent and physician, left the sanatorium to accept a position at Gaylord Farms Sanatorium, in Connecticut. Dr. George M. Sullivan was promoted to the position of assistant superintendent and physician, and on Nov. 19, 1917, Dr. Gale, formerly physician at the State Farm, assumed the duties of second assistant.

ACKNOWLEDGMENTS.

In my last report I took occasion to speak of the good work of the Holy Name Society in improving the discipline of the sanatorium. I am very pleased to report that this society has broadened its activities by establishing a fund by which help is given to needy patients who are not otherwise provided for. Benefits dispersed from these meager funds in one case furnished a car fare, without which a poor patient could not enjoy a leave of absence; in another case smoking material which had not otherwise been provided; in still another case, some small article of clothing. This little benefit fund has been raised by entertainments and card parties to which a small admission is charged.

I speak of this little enterprise of the men patients because, although very small, it means a great deal in maintaining the kindly feeling which should prevail in an institution like ours.

The entire institution regretted the departure of Rev. Father Timothy Curtin, whose active co-operation in sanatorium affairs had been so helpful. His place is well filled, however, by the Rev. Father Albert M. Readdy, who, with his curate the Rev. Father Eli Barneaud, is continuing the very happy relationship between the parish and the sanatorium.

The Protestant clergymen of Middleborough, who in turn perform the duties of chaplain at the sanatorium, have played an important part in making the tuberculosis problem understood in the town.

Frequent contributions of books and flowers for the wards are gratefully acknowledged.

Respectfully submitted,

SUMNER COOLIDGE, M.D.,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1917:—

CASH ACCOUNT.

Balance Dec. 1, 1916,		\$1,320 38
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Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$4,144 86	
Cities and towns,	30,430 71	
Other reimbursements, charitable (collected by State Treasurer),	180 00	
	\$34,755 57	
Sales,	1,415 15	
Miscellaneous receipts,	192 75	
	36,363 47	

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1916,	\$818 85	
Advance money (amount on hand November 30),	6,000 00	
Approved schedules of 1917,	135,845 10	
	142,663 95	
Special appropriations,	3,117 88	
Total,	\$183,465 68	

Payments.

To treasury of Commonwealth, institution receipts,		\$36,363 47
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Maintenance appropriations:—

Balance November schedule, 1916,	\$2,139 23	
Eleven months' schedules, 1917,	135,845 10	
November advances,	4,680 68	
	142,665 01	
Special appropriations:—		
Approved schedules,	3,117 88	
Balance Nov. 30, 1917:—		
In bank,	\$1,125 88	
In office,	193 44	
	1,319 32	
Total,	\$183,465 68	

MAINTENANCE.

Appropriation, current year,	\$141,920 00
Expenses (as analyzed below),	141,919 76
	<hr/>
Balance reverting to treasury of Commonwealth,	\$0 24

Analysis of Expenses.

Salaries, wages,	\$59,472 86
Religious instruction: —	
Catholic,	\$600 00
Jewish,	149 40
Protestant,	460 00
	<hr/>
	1,209 40
Travel, transportation and office expenses,	3,237 53
Food,	25,950 86
Clothing and materials,	32 85
Furnishings and household supplies,	5,214 00
Medical and general care,	2,620 05
Heat, light and power,	9,897 58
Farm and stable,	26,987 40
Grounds,	742 52
Repairs, ordinary,	5,636 93
Repairs and renewals,	917 78
	<hr/>
Total expenses for maintenance,	\$141,919 76

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1916,	\$279 79
Appropriations for fiscal year,	4,000 00
	<hr/>
Total,	\$4,279 79
Expended during the year (see statement annexed),	\$3,117 88
Reverting to treasury of Commonwealth,	80
	<hr/>
	3,118 68
	<hr/>
Balance Nov. 30, 1917,	\$1,161 11

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,319 32
November cash vouchers (paid from advance money), account of maintenance,	4,680 68
Due from treasury of Commonwealth from available appropriation, account of November, 1917, schedule,	74 66
	<hr/>
	\$6,074 66

Liabilities.

Schedule of November bills,	\$6,074 66
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PER CAPITA.

During the year the average number of inmates has been 263.45.

Total cost for maintenance, \$141,919.76.

Equal to a weekly per capita cost of \$10.3595.

Receipt from sales, \$1,415.15.

Equal to a weekly per capita of \$0.1033.

All other institution receipts, \$34,948.32.

Equal to a weekly per capita of \$2.5511.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Purchase of land and dairy equipment,	Resolves 1916, chap. 110,	\$20,300 00	\$252 91	\$20,299 96	\$0 04 ¹
Coal trestle,	Resolves 1916, chap. 110,	5,500 00 ²	26 08	5,499 24	76 ¹
Rendering plant,	Special Acts 1917, chap. 374,	1,300 00	1,144 23	1,144 23	155 77
Brick smokestack,	—	2,700 00 ³	1,694 66	1,694 66	1,005 34
		\$29,800 00	\$3,117 88	\$28,638 09	\$1,161 91

¹ Reverting to treasury of the Commonwealth.

² \$500 transferred from extraordinary expenses.

³ Transferred from extraordinary expenses.

Respectfully submitted,

SUMNER COOLIDGE,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate,	\$191,455 28
Personal estate,	68,371 39
	<hr/>
Total,	\$259,826 67

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	167	84	251
Number received during the year,	254	144	398
Number discharged or died during the year,	240	138	378
Number at end of fiscal year,	181	90	271
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	177	86	263
Average number of officers and employees during year, .	79	25	104

Expenditures.

Current expenses: —

1. Salaries and wages,	\$59,472 86	
2. Clothing,	32 85	
3. Subsistence,	25,950 86	
4. Ordinary repairs and improvements, .	5,636 93	
5. Office, domestic and outdoor expenses, .	50,826 26	
Total,	<hr/>	\$141,919 76

Extraordinary expenses: —

1. Land and dairy equipment,	\$252 91	
2. Coal trestle,	26 08	
3. Replacing rendering plant,	1,144 23	
4. Permanent improvements to existing buildings,	1,694 66	
Total,	<hr/>	3,117 88

Grand total,		<hr/>	\$145,037 64
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Summary of Current Expenses.

Total expenditures,	\$145,037 64	
Deducting extraordinary expenses,	3,117 88	
	<hr/>	\$141,919 76
Deducting amount of sales,	1,415 15	
	<hr/>	
Total,		\$140,504 51

Dividing this amount by the daily average number of patients, 263.45, gives a cost for the year of \$533.32, equivalent to an average weekly net cost of \$10.26.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1916, to Nov. 30, 1917, inclusive.	254	144	398
Number of patients discharged Dec. 1, 1916, to Nov. 30, 1917, inclusive.	240	138	378
Number of deaths (included in preceding item),	62	21	83
Number remaining in sanatorium Nov. 30, 1917,	181	90	271
Daily average number of patients,	177	86	263
Daily average number of bed patients Dec. 1, 1916, to Nov. 30, 1917.	47	37	84

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	123	78	201
Single,	122	59	181
Widowed,	7	6	13
Divorced,	2	1	3
Totals,	254	144	398

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	21	24	45
20 to 30 years,	93	63	156
30 to 40 years,	79	35	114
40 to 50 years,	43	15	58
Over 50 years,	17	7	24
Unknown,	1	—	1
Totals,	254	144	398

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	103	35	32	57	14	15	160	49	47
Other New England States,	16	15	14	7	6	6	23	21	20
Other States,	7	6	7	5	7	7	12	13	14
Total native,	126	56	53	69	27	28	195	83	81
Other countries (32),	128	190	188	75	110	113	203	300	301
Unknown,	—	8	13	—	7	3	—	15	16
Grand totals,	254	254	254	144	144	144	398	398	398

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	135
Fall River,	37
Brockton,	27
New Bedford,	17
Middleborough,	12
Marlborough,	11
Worcester,	11
Quincy,	10
Unknown,	1
Other cities and towns (73),	138
Total,	398

TABLE 6. — *Occupations.*

Ninety occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	1	1	2
Moderately advanced,	82	64	146
Advanced,	164	78	242
Not classified,	4	—	4
Not examined,	3	1	4
Totals,	254	144	398

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.	Per Cent.
Arrested,	1	—	1	—
Apparently arrested,	21	16	37	10
Quiescent,	11	4	15	4
Improved,	80	55	135	36
Unimproved,	36	22	58	15
Died,	62	21	83	22
Not considered,	29	20	49	13
Totals,	240	138	378	100

TABLE 9. — *Deaths.*

Males, 62; females, 21; total, 83. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D.,	.	.	.	.	<i>Superintendent.</i>
ROY MORGAN, M.D.,	.	.	.	.	<i>Assistant Superintendent</i> <i>and Physician.</i>
J. J. COSGROVE, M.D.,	.	.	.	.	<i>Physician.</i>

ANNIE S. RATHBONE,	.	.	.	.	<i>Superintendent of Nurses.</i>
HERBERT W. SMITH,	.	.	.	.	<i>Steward.</i>
BENJAMIN J. SANDIFORD,	.	.	.	.	<i>Chief Engineer.</i>
FRANK J. CLEGG,	.	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the eighth annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1917.

DAYS OF TREATMENT.

There have been 96,725 days of treatment given the past year, which is 175 more than in 1916. This is the extreme limit of our accommodations, and was only attained by the installation of additional beds. This results in crowding on the wards only during a few days of stormy weather when patients cannot remain on the porches.

NUMBER TREATED.

There have been 473 patients under treatment; 207 of these were new admissions, the others having remained in the sanatorium from the previous year.

The daily average number of patients was 265.09, a slight increase over 1916, when the average was 263.78. Although we have cared for a little larger daily average, the number of admissions has decreased by 75, due to a longer residence of those under treatment. Twenty-one patients who were discharged on furlough, to work in the sanatorium or to go to other hospitals for surgical treatment, were readmitted during the year, and are therefore counted twice in the total number of admissions.

CLASSIFICATION.

Of those admitted 22 per cent. were classed as incipient, 35 per cent. as moderately advanced and 43 per cent. as advanced. All the patients with incipient disease were children

except one woman. Only 72 patients over twenty years old were admitted. The number in the moderately advanced class was 10 per cent. more than last year; the advanced class 7 per cent. less. Notwithstanding the fewer advanced cases admitted, the number of bed patients has averaged 78.39, or 6 more than the previous year. The number of deaths has been 30, a decrease of 25 over last year, and is the lowest rate since the sanatorium was opened. Fourteen of these patients died within six months after admission.

· LENGTH OF RESIDENCE.

I am much gratified to find that the average length of stay of each patient discharged has reached 376 days. I consider that an average residence of one year is the minimum necessary for most patients to obtain a degree of arrest that is likely to prove permanent. In obtaining this average the stay of every patient was computed, even the nine who remained less than thirty days. In studying the patients who were discharged as apparently arrested we find that their average stay was 500 days. Only twelve of this group remained less than 300 days, and but one of them less than 100 days. This is further evidence that a long period of treatment, even under sanatorium conditions, is necessary to achieve good results.

SUPPORT OF PATIENTS.

Of the 207 patients admitted 23 paid their own board, 121 were supported by cities and towns, 1 was a State minor ward, 54 were State charges, and the status of 8 has not yet been determined. The receipts for private patients were \$2,781.41, and for cities and towns, \$41,257.07. The total receipts were \$508.40 less than a year ago. There has been a steady decrease each year in the number of patients paying their own board.

The gross cost of maintenance per week has been \$10.93, which is 16 per cent. higher than in 1916. Deducting sales the per capita cost was \$10.74.

GAIN IN WEIGHT.

Of the discharged patients 143 gained in weight an average of 13.05 pounds; 67 failed to gain or lost weight. On account of the installation of the cafeteria service in March, 1916, it will be of interest to compare the gain in weight of the discharged patients for the past three years. The patients in 1915 had the usual waiter service. Those in 1916 had four months' waiter service and eight months' cafeteria. The patients in 1917 had only cafeteria service.

	Number gained.	Failed to gain.	Total.	Per Cent. gained.	Average Amount gained (Pounds).
1915,	215	99	314	68	10.5
1916,	185	99	284	65	9.5
1917,	143	67	210	68	13.0

This record effectually answers the criticisms that patients will not select the kind of food best for them when given a choice, or that they will not eat as much as they would if the food was placed before them by a waiter. The evidence is to the contrary. For an institution of this kind a cafeteria service is much to be preferred. The direct service pleases the patients, and food waste is reduced to a minimum.

CONDITION ON DISCHARGE.

Of the 210 patients discharged, 39 per cent. were apparently arrested, 17 per cent. quiescent, 12 per cent. improved, 14 per cent. unimproved, 14 per cent. died, and 4 per cent. not considered as they remained less than thirty days.

SANATORIUM SCHOOL.

The school has had a very successful year. We have been fortunate in having the services of a corps of very good teachers, and the children have made very satisfactory progress in their studies. The total enrollment has been 229, which is a

substantial increase from the 162 of the preceding year. The average attendance by grades has been as follows:—

Grade 1,	12.150
Grade 2,	10.180
Grade 3,	14.810
Grade 4,	13.030
Grade 5,	15.800
Grade 6,	19.793
Grade 7,	15.878
Grade 8,	8.246
Sewing,	15.500
Cooking,	9.900
Manual training,	9.190
Total enrollment,	229

In comparing the per capita cost of the sanatoria it should be borne in mind that the maintenance of our school adds 35 cents to the weekly cost per patient at Westfield. This is an item of expense which does not enter into the maintenance of the other sanatoria.

MEDICAL TREATMENT.

I feel that we have improved our system of medical care of the patients very much this past year. They are kept under closer observation and treated individually more than ever before. The tendency as the population of an institution gets larger is for the superintendent to treat the patients collectively or in classes, paying too little attention to the individual's symptoms, temperament and the worries which are important and perhaps peculiar to him. To avoid such faulty methods the causes for symptoms and the reasons why prolonged rest in bed or other treatment is prescribed are explained to the patient in a painstaking, personal way. After the period of rest is over and graduated exercise is begun, the patient's response to the stipulated amount of exercise as indicated by the pulse and temperature chart is closely followed. A rise in the pulse rate, if not heeded properly, will later be accompanied by fever. The chart presents this in a graphic way, and is shown to the patient to emphasize the advice given to go slow, to be cautious and follow instructions. These private consul-

tations which we hold at least once a week also induce a feeling of confidence between patient and doctor, and a cordial spirit of co-operation is promoted that is very helpful to the morale of both the patients and nurses. The patients realize that the sanatorium is theirs and is conducted for their best good; that what few rules there are must be obeyed to obtain its benefits, and they comply with good grace in most instances. Chronic alcoholics and an occasional feeble-minded patient are the exception, and such offenders must be eliminated by discharge for the good of the greater number. The assistant superintendent, Dr. Morgan, deserves much credit for working out the details of the system which I have outlined above, and the good results obtained are due in large measure to his conscientious work.

IMPROVEMENTS.

An appropriation of \$7,500 for sewage disposal was granted last year. Proposals for the construction of eight filter beds, to be built according to plans approved by the State Department of Health, were advertised. Of the two bids received, the lowest one was \$13,188, which did not include the sewer pipe, gate valves and other hardware, or the engineer's fee. Those items would amount to \$1,000 more. The bids seemed so excessive it was decided not to award a contract. After consulting with the engineer, Mr. O. E. Parks, who drew the plans, and with the engineering department of the State Department of Health, it was decided to ask for an additional amount of \$5,500 from the contingent fund. This was granted, making a total of \$13,000 available for the work. Mr. Parks was employed to superintend the work and furnish all necessary tools for the lump sum of \$900. We were fortunate in finding a very satisfactory grade of sand near the new beds. The plans were carried out in every detail. It was also found necessary, in order to complete the sewage disposal system, to connect one of the farmhouses with the sewer main, and lay a number of underground drains about the buildings so that the surface water would be carried to the brooks and so kept out of sewers. Each year our basement storeroom has been flooded and goods to considerable value have been ruined.

Laying the drain pipes at the proper grade necessitated going through some ledges of sandstone. Notwithstanding this supplementary work, which cost \$3,300, we were able to complete the job for \$11,900 and return \$1,100 of the appropriation to the treasurer. By doing this work ourselves the Commonwealth has been saved \$1,100, and additional work to the value of \$3,300 has been done to complete the sewage system.

RECOMMENDATIONS.

Special appropriations are requested for the following improvements: —

Dormitory for ex-patient employees,	\$10,000
Garage,	3,500
Water tank and hydrants,	3,000
Purchase of land,	1,500
Fireproof vault,	2,500

Dormitory for Ex-patient Employees. — A building is badly needed to house ex-patients who have become well enough to be discharged from the wards and remain as employees. They can become self-supporting much sooner when given an opportunity to work under the favoring conditions of sanatorium life. The plans for the building submitted are the same as last year, and provide accommodations for sixteen men.

Garage. — We need a fireproof building in which to keep the institution automobiles. At present they are kept in an old barn which is in bad repair. The room in which they are stored can be heated only by electric radiators. By this means we can keep the temperature above freezing point, but not warm enough for washing the cars in winter.

Water Tank. — For fire protection we should have an additional water tank and four hydrants placed about the grounds. I would recommend the erection of a 20,000-gallon tank on a 40-foot steel tower.

Purchase of Land. — Adjoining the State property on the east there is a plot of land 28.8 acres in area that would make a very valuable addition to the institution. It could be used for pasturage, and has also quite a large growth of wood and

timber. It is also desirable that it be acquired by the sanatorium, as the male patients should have this area for exercise.

Fireproof Vault. — The plan submitted has been approved by the Commissioner of Public Records. The construction of this vault is necessary to enable us to comply with the law, which requires specified records to be kept under fireproof condition.

FARM.

Although we had a late spring and an early frost in the fall, which did much damage to ripening produce, we have had a very successful year. Vegetables to the value of \$3,252 were produced. The dairy records a profit of \$3,539. All milk used was produced at .0674 cents a quart, including cost of pasteurization. The herd of swine showed a credit balance of \$1,724.

ENGINEERING DEPARTMENT.

Many changes tending to provide efficiency in the operations of the engines and boilers have been made during the year. Water has been piped from the pond in the rear of the power house to feed the boilers. This has practically eliminated scale formation. From March to November an average saving was made of 20 tons of coal per month. A few other changes are planned for the next year, which will put the plant in first-class condition.

ACKNOWLEDGMENTS.

Religious services are held each Sunday by the Catholic, Protestant and Jewish chaplains. These clergymen interest themselves in the material as well as the spiritual welfare of the patients and employees. Their friendly ministrations encourage a spirit of good will and a determination to make the best of things, — to be brave and not grumble.

Miss Rathbone, who as superintendent of nurses and matron has done much to systematize her department, is on a leave of absence while doing her part to relieve the suffering among the French refugees in the war zone. With this exception the medical staff and heads of departments remain unchanged. To them and the other employees I wish to express my apprecia-

tion for their loyalty and unselfish interest in carrying on the work of the sanatorium.

The cordial support given me by the Board of Trustees is very much prized, and is an incentive for me to return to you through the sanatorium the best service I am competent to render.

Respectfully submitted,

HENRY D. CHADWICK,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1917: —

CASH ACCOUNT.			
Balance Dec. 1, 1916,	.	.	\$2,343 74
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates: —			
Private,	.	\$2,781 41	
Cities and towns,	.	41,257 07	
		<hr/>	
			\$44,038 48
Sales,	.	.	2,676 57
Miscellaneous receipts: —			
Interest on bank balances,	.	\$197 91	
Sundries,	.	7 56	
		<hr/>	
			205 47
			<hr/>
			46,920 52
<i>Receipts from Treasury of Commonwealth.</i>			
Maintenance appropriations: —			
Balance of 1916,	.	\$1,046 70	
Advance money (amount on hand November 30),	.	5,000 00	
Approved schedules of 1917,	.	141,976 96	
		<hr/>	
			148,023 66
Special appropriations,	.	.	11,245 50
			<hr/>
Total,	.	.	\$208,533 42
<i>Payments.</i>			
To treasury of Commonwealth, institution receipts,	.	.	\$46,920 52
Maintenance appropriations: —			
Balance November schedule, 1916,	.	\$3,390 44	
Eleven months' schedules, 1917,	.	141,074 72	
November advances,	.	5,327 38	
		<hr/>	
			149,792 54
Special appropriations: —			
Approved schedules,	.	\$11,245 50	
November advances,	.	252 25	
		<hr/>	
			11,497 75
Balance Nov. 30, 1917: —			
In bank,	.	\$2 68	
In office,	.	319 93	
		<hr/>	
			322 61
			<hr/>
Total,	.	.	\$208,533 42

MAINTENANCE.

Appropriation, current year,	\$150,692 00
Expenses (as analyzed below),	150,671 85

Balance reverting to treasury of Commonwealth,	\$20 15
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Analysis of Expenses.

Salaries, wages,	\$57,298 36
Religious instruction: —	
Catholic,	\$600 00
Jewish,	197 60
Protestant,	395 80
	<hr/>
	1,193 40
Travel, transportation and office expenses,	4,896 29
Food,	35,737 95
Clothing and materials,	1,118 83
Furnishings and household supplies,	8,166 47
Medical and general care,	2,411 72
Heat, light and power,	14,249 15
Farm and stable,	12,352 73
Grounds,	658 24
Repairs, ordinary,	9,556 51
Repairs and renewals,	3,032 20
	<hr/>
Total expenses for maintenance,	\$150,671 85

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1916,	\$315 00
Appropriations for fiscal year,	13,000 00
	<hr/>
Total,	\$13,315 00
Expended during the year (see statement annexed),	11,667 60
	<hr/>
Balance Nov. 30, 1917,	\$1,647 40

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$322 61
November cash vouchers (paid from advance money): —	
Account of maintenance,	\$5,327 38
Account of special appropriations,	252 25
Account of cash from unpaid October bills,	579 63
	<hr/>
	6,159 26
Due from treasury of Commonwealth from available appropriation account of November, 1917, schedule,	3,537 36
	<hr/>
	\$10,019 23

Liabilities.

Schedule of November bills,	\$10,019 23
---------------------------------------	-------------

PER CAPITA.

During the year the average number of inmates has been 265.09.

Total cost for maintenance, \$150,671.85.

Equal to a weekly per capita cost of \$10.9303.

Receipt from sales, \$2,676.57.

Equal to a weekly per capita of \$0.1941.

All other institution receipts, \$44,243.95.

Equal to a weekly per capita of \$3.2096.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Equipment for barn and dairy,	Resolves 1916, chap. 102,	\$1,784 84	\$315 00	\$1,784 84	-
Sewage filtration beds,	Resolves 1917, chap. 375,	13,000 00 ¹	11,352 60	11,352 60	\$1,647 40
		\$14,784 84	\$11,667 60	\$13,137 44	\$1,647 40

¹ \$5,500 transferred from extraordinary expenses.

Respectfully submitted,

HENRY D. CHADWICK,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,

Auditor.

VALUATION.

Land,	\$13,499 00
Buildings,	150,867 79
Miscellaneous,	42,213 21
<hr/>	
Total,	\$206,580 00
Personal estate,	62,084 41
<hr/>	
Total valuation,	\$268,664 41

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number received during the year,	109	98	207
Number passing out of the institution during the year, .	111	99	210
Number at the end of the fiscal year in the institution, .	131	132	263
Daily average attendance (number of inmates actually present) during the year.	132.17	132.92	265.09
Average number of employees and officers during the year, .	64	37	101

Expenditures.

Current expenses: —

1. Salaries and wages,	\$57,298 36
2. Clothing,	1,118 83
3. Subsistence,	35,737 95
4. Ordinary repairs,	9,556 51
5. Office, domestic and outdoor expenses,	46,960 20

Total, \$150,671 85

Extraordinary expenses: —

1. Permanent improvements to existing buildings and construction,	\$11,245 50
--	-------------

Grand total, \$161,917 35

Summary of Current Expenses.

Total expenditures,	\$161,917 35
Deducting extraordinary expenses,	11,245 50

\$150,671 85

Deducting amount of sales,	2,676 57
--------------------------------------	----------

\$147,995 28

Dividing this amount by the daily average number of patients, 265.09, gives a cost for the year of \$558.28, equivalent to an average weekly net cost of \$10.74.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1916, to Nov. 30, 1917, inclusive.	109	98	207
Number of patients discharged Dec. 1, 1916, to Nov. 30, 1917, inclusive.	111	99	210
Number of deaths (included in preceding item),	16	14	30
Number in sanatorium Dec. 1, 1916,	133	133	266
Number remaining Nov. 30, 1917,	131	132	263

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	15	16	31
Single,	94	81	175
Widowed,	—	1	1
Totals,	109	98	207

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	42	43	85
14 to 20 years,	26	24	50
21 to 30 years,	25	10	35
31 to 40 years,	7	14	21
41 to 50 years,	7	6	13
51 to 60 years,	2	1	3
Totals,	109	98	207

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	61	26	29	61	18	26	122	44	54
Other New England States,	9	6	6	6	10	9	15	16	15
Other States,	4	3	1	8	7	6	12	10	8
Total native,	74	35	36	75	35	41	149	70	77
Other countries (22),	32	66	65	21	57	50	53	123	115
Unknown,	3	8	8	2	6	7	5	14	15
Grand totals,	109	109	109	98	98	98	207	207	207

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Fall River,	26
Springfield,	22
Boston,	20
Worcester,	11
Other cities and towns,	128
Total,	207

TABLE 6. — *Occupations.*

Thirty-four occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	19	27	46
Moderately advanced,	41	32	73
Advanced,	49	39	88
Totals,	109	98	207

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	48	34	82
Quiescent,	15	20	35
Unimproved,	17	12	29
Improved,	10	15	25
Died,	16	14	30
Non-tuberculous,	—	—	—
Not considered, ¹	5	4	9
Totals,	111	99	210

¹ Under treatment less than thirty days.TABLE 9. — *Deaths.*

Males, 16; females, 14; total, 30. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

RUTLAND STATE SANATORIUM.

CONSULTING LARYNGOLOGIST.

A. C. GETCHELL, M.D.

RESIDENT OFFICERS.

ERNEST B. EMERSON, M.D.,	. . . . .	<i>Superintendent.</i>
LEON A. ALLEY, M.D.,	. . . . .	<i>Assistant Superintendent</i> <i>and Physician.</i>
DAVID E. MANN, M.D.,	. . . . .	<i>Physician.</i>
— — — — —	. . . . .	<i>Physician.</i>
NISHAN HAMPSON, M.D.,	. . . . .	<i>Bacteriologist.</i>

DELYA E. NARDI,	. . . . .	<i>Superintendent of Nurses.</i>
WALTER C. BROWN,	. . . . .	<i>Chief Engineer.</i>
CHARLES E. CHAPMAN,	. . . . .	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the report of the Rutland State Sanatorium for the year ending Nov. 30, 1917.

I assumed the superintendency of the Rutland State Sanatorium on Oct. 16, 1917; therefore this report relates particularly to the work carried out during the year by your former superintendent, Dr. Elliott Washburn.

There were 352 patients in the sanatorium at the beginning of the year and 346 at its close.

The daily average number of patients was 350, an increase of two over the previous year.

There were 431 patients admitted of whom 400, or 90.4 per cent., were indoor workers. The occupations contributing the greatest numbers are the factory, with 84, housework, 67, and clerical positions, 49.

The accompanying table shows the classification of patients as stated on their application blanks compared with the classification made by the sanatorium physicians.

	Classifica- tion on Application Blanks.	Classifica- tion on Admission.
Incipient,	333	176
Moderately advanced,	93	187
Far advanced,	4	56
Non-tuberculous,	-	6
Not classified,	1	6
Totals,	431	431

There were 437 patients discharged, including deaths. Of those discharged, 313 gained in weight, 77 lost weight and 27 died.

The total gain in weight was 3,997 pounds; the total loss in weight, 668 pounds. The largest gain in weight was 51 pounds; the greatest loss in weight, 37 pounds.

Patients here under one month were not considered. The average duration of treatment was ten months and twelve days.

The results of treatment are shown on Table 8.

OFFICERS.

Dr. William C. Schroeder resigned Feb. 22, 1917, to accept a more remunerative position in another State.

Dr. Roy C. Jackson served temporarily from March 15, 1917, to April 2, 1917.

Dr. Walter A. Jillson was appointed June 15, 1917, and resigned Aug. 18, 1917, to enter the United States Army.

Dr. Elliott Washburn, superintendent for four years, resigned in August to accept a greater responsibility as director of the Municipal Hospitals and Dispensaries of Kansas City, Mo.

Dr. David E. Mann, a graduate of Tufts Medical School and the Cambridge City Hospital, was appointed assistant physician on Aug. 29, 1917.

Dr. Willard B. Howes, assistant superintendent, resigned Nov. 30, 1917, after six years of service, to accept a position as medical supervisor of the schools of Framingham.

Dr. Leon A. Alley, assistant physician, has been appointed acting assistant superintendent.

Mr. Thomas H. Murray, steward, resigned Nov. 30, 1917, in order to accept a commission in the United States Army.

Such numerous changes in the personnel of an official family are demoralizing to the management of any institution. The record of this and other institutions is not materially different, save in the names of those coming and going, not alone in time of war but also in time of peace. Physicians are entering the State service in preparation for a career elsewhere, and with no idea whatever of making institutional work their life calling. The ambitious and capable young physician enters the State service for further clinical experience or to replenish a

depleted pocketbook. The institutions are merely stepping-stones in his career.

While it is a well-recognized function of a hospital to educate and prepare physicians to care for the sick of the community, they cannot fulfill that function unless their own standards are to be maintained and improved. If good medical work is to be done and standards improved, or even present standards maintained, an effort must be made to meet the market price of that type of medical man qualified and fitted for institutional work. An assistant physician entering the service of the Commonwealth should know that an honest effort will win the things desired by every normal individual, and that to obtain them it is not necessary for him to enter other fields unless by chance he becomes the chief executive, when his medical knowledge is forced into the background by other duties.

There should be a reasonable reward for good medical work, an income and opportunity for home life at least the equivalent of that which the average physician may expect in general practice.

RECOMMENDATIONS.

The X-ray machine is obsolete. It never gave satisfactory service, and is not worth repairing. I recommend that \$1,000 be appropriated in order to effect an exchange for new and more serviceable equipment.

At the present time most of our wood work is done by hand labor or milled elsewhere at a considerable loss of time and expense. I recommend that \$350 be appropriated for a wood-working machine.

A rendering machine and bone grinder should be installed in order that the grease, hog feed and fertilizer material may be salvaged from the waste products. For this purpose \$500 should be appropriated.

A truck for the hauling of coal and other materials is urgently needed. Our coal must be moved for the most part as delivered by the railroad, because of insufficient storage space at the trestle. The tractor and trailer cannot be used on the State road, and our horse-drawn vehicles are unable to handle the coal as delivered; moreover, they are needed for other purposes, particularly during the open season. Because of

lack of storage space winter hauling with horses is impracticable and at times impossible. At the present time we are paying 90 cents per ton, or approximately \$3,150 per year, for the teaming of coal. I anticipate that this price will be more rather than less. Assuming the cost of operating a truck is \$12 per day, and that 120 days would be required for the hauling of a year's supply of coal, there is a hauling expense of about \$1,440, and allowing \$300 a year for contingencies there is an estimated saving on the hauling of coal alone of \$1,400 per year. When not hauling coal such a machine would be otherwise employed much of the time. I therefore recommend that \$4,200 be appropriated for a 3-ton general utility truck.

As authorized by the Board, the plans for the new kitchen have been revised, and will soon be ready to be submitted in place of those originally drawn. The proposed changes will simplify the present complicated domestic arrangements, and will, I believe, materially reduce the cost of food service. Except for a few steps leading from the kitchen to the employees' dining room, the kitchen, dining and serving rooms will be on the same level. The patients will be served from a cafeteria immediately connected with the kitchen. The present diet kitchen is to be used for a dining room for the nurses, who with the other employees will be placed on a cafeteria service. The food trucks and trays for the bed cases will be loaded in the kitchen and sent directly to the wards, making a quicker and hotter food delivery. The cafeteria installed for the male employees has demonstrated a marked economy by the reduction of waste and by the means afforded of serving odd lots of food not sufficient in quantity for a whole meal. The plans provide for additional storage space and a refrigerating plant, all of which are much needed, as there are no suitable facilities at the present time for the storage of flour, meats, butter and vegetables. The plans furthermore provide for the separation of the tuberculous and the non-tuberculous employee. There will be one dishwashing machine for the tuberculous and one for the non-tuberculous, in place of four rooms in use at present. It is estimated that the work can be done with ten less employees, and that there will be some

reduction in water, heat and steam. It is believed that the construction under the revised plans will cost about 25 per cent. less than under those originally prepared.

The entire institution, with the exception of the nurses' home, needs painting on the outside, many of the buildings require inside painting, and considerable work will be required in the repair of leaking roofs. I am therefore asking for \$6,015, or \$1,538 over the expenditure of last year, to meet the ordinary repairs. These repairs are necessary, and in spite of the high cost of living should not be delayed another year.

PRISON AND FARM LABOR.

The products of the farm are good and much to be desired. Fresh vegetables and small fruits cannot be obtained in the market to compare with home production, yet the cost of their production is almost if not quite prohibitive. Theoretically it may appear that the farm should pay its way and show a profit. In practice, however, this or any other farm cannot compete for a profit on an eight-hour day against the private owner and his whole family, working from sunrise to sunset, and more. Unskilled labor for the working of the farm is a high-priced commodity and difficult to obtain at the present time; moreover, in the best of times it is an unreliable asset. The employment of prison labor, which has been discussed in previous reports, should be made a permanent feature. The operation of the farm with this labor, in so far as the ultimate cost to the State is involved, could be put on practically the same basis as that of farms operated by other institutions caring for this particular class of people. The immediate results of operating the farm with prison labor would be food direct from the farm to the kitchen at a reasonable cost and the ultimate improvement of the property. This scheme is in accord with modern ideas of caring for the prisoner, and should not be met with opposition on the part of free labor, at least not until there is a greater supply obtainable than at the present time.

Further details will be found in the treasurer's report and accompanying statistical tables, which are a part of this report.

ACKNOWLEDGMENTS.

The religious interests remain unchanged. The Rev. Father John F. O'Connor, the Rev. John R. Copplestone and Dr. Joseph Suffrin give freely of their time and strength in the interest of the patients and the sanatorium. We are indebted to these gentlemen for the work they are doing and the good cheer which they bring with them.

I am grateful for the cordial spirit so manifest on the part of the officers and employees. To your Board I tender my sincere thanks for your confidence and counsel.

Respectfully submitted,

ERNEST B. EMERSON, M.D.,

Superintendent.

RUTLAND, Dec. 1, 1917.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1917: —

CASH ACCOUNT.	
Balance Dec. 1, 1916,	\$4,409 62
<i>Receipts.</i>	
<i>Institution Receipts.</i>	
Board of inmates: —	
Private,	\$8,784 44
Cities and towns,	48,098 32
Other reimbursements, charitable (collected by State Treasurer), State minor wards,	238 26
	\$57,121 02
Sales,	3,513 65
Miscellaneous receipts,	500 80
	61,135 47
<i>Receipts from Treasury of Commonwealth.</i>	
Maintenance appropriations: —	
Balance of 1916,	\$2,250 72
Advance money (amount on hand November 30),	17,901 80
Approved schedules of 1917,	196,684 49
	216,837 01
Special appropriations,	8,182 65
	\$290,564 75
<i>Payments.</i>	
To treasury of Commonwealth, institution receipts,	\$61,135 47
Maintenance appropriations: —	
Balance November schedule, 1916,	\$6,660 34
Nine months' schedules, 1917,	196,684 49
September and October advances,	17,875 47
	221,220 30
Special appropriations: —	
Approved schedules,	8,182 65
Balance Nov. 30, 1917: —	
In office,	26 33
	\$290,564 75

MAINTENANCE.

Appropriation, current year,	\$211,685 75
Transfer from extraordinary expenses,	7,176 69
<hr/>	
Total,	\$218,862 44
Expenses (as analyzed below),	248,580 23
<hr/>	
Deficiency,	\$29,717 79

Analysis of Expenses.

Salaries, wages,	\$79,302 84
Religious instruction: —	
Catholic,	\$600 00
Jewish,	269 50
Protestant,	500 00
<hr/>	
	1,369 50
Travel, transportation and office expenses,	5,833 21
Food,	85,586 79
Clothing and materials,	106 39
Furnishings and household supplies,	12,061 35
Medical and general care,	6,692 69
Heat, light and power,	33,375 25
Farm and stable,	16,704 94
Grounds,	69 48
Repairs, ordinary,	4,477 79
Repairs and renewals,	3,000 00
<hr/>	
Total expenses for maintenance,	\$248,580 23

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1916,	\$8,957 50
Transferred from extraordinary expenses,	1,267 95
<hr/>	
Total,	\$10,225 45
Expended during the year (see statement annexed),	\$8,182 65
Reverting to treasury of Commonwealth,	72
<hr/>	
	8,183 37
<hr/>	
Balance Nov. 30, 1917,	\$2,042 08

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$26 33
September, October and November cash vouchers (paid from advance money), account of main- tenance,	17,875 47
Due from treasury of Commonwealth from ex- traordinary expense on account of November, 1917, pay roll,	4,276 15
<hr/>	
	\$22,177 95

Liabilities.

Schedule of September, October and November bills,	\$51,895 74
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PER CAPITA.

During the year the average number of inmates has been 350.

Total cost for maintenance, \$248,580.23.

Equal to a weekly per capita cost of \$13.6582.

Receipts from sales, \$3,513.65.

Equal to a weekly per capita of \$0.1935.

All other institution receipts, \$57,621.82.

Equal to a weekly per capita of \$3.166.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Coal trestle,	Resolves 1916, chap. 101,	\$8,767 95 ¹	\$5,224 73	\$8,767 95	-
Greenhouse,	Resolves 1916, chap. 101,	1,500 00	-	1,499 28	\$0 72 ²
Improvement of land, prison labor account,	Resolves 1916, chap. 108,	5,000 00	2,957 92	2,957 92	2,042 08
		\$15,267 95	\$8,182 65	\$13,225 15	\$2,042 08

¹ Original appropriation, \$7,500; transferred from extraordinary expenses, \$1,267 95.² Reverting to treasury of the Commonwealth.

Respectfully submitted,

RAYMOND G. DENISON,
Acting Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK.
Auditor.

VALUATION.

Land,	\$38,154 00
Sewerage system,	15,508 32
Buildings,	471,925 00
	<hr/>
Total,	\$525,587 32

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference on Charities and Correction, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients at beginning of fiscal year,	192	160	352
Number received during the year,	229	202	431
Number of discharges during the year,	229	208	437
Number of deaths included in preceding item,	18	9	27
Daily average attendance (i.e., number of inmates actually present) during the year.	195	155	350
Average number of officers and employees during the year,	124.4	72.2	196.6

Expenditures.

Current expenditures: —

1. Salaries and wages,	. . . . .	\$79,302 84
2. Clothing,	. . . . .	106 39
3. Subsistence,	. . . . .	85,586 79
4. Ordinary repairs,	. . . . .	4,477 79
5. Office, domestic and outdoor expenses,	. . . . .	79,105 42

Total, \$245,579 23

Extraordinary expenses: —

1. Permanent improvements to existing buildings,	3,000 00
--	-----------	----------

Grand total, \$248,579 23

Summary of Current Expenses.

Total expenditures,	. . . . .	\$248,579 23
Deducting extraordinary expenses,	. . . . .	3,000 00

\$245,579 23

Deducting amount of sales,	3,513 65
----------------------------	-----------	----------

\$242,065 58

Dividing this amount by the daily average number of patients, 350, gives a cost for the year of \$691.615; equivalent to an average weekly net cost of \$13.30.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1916,	192	160	352
Number admitted Nov. 30, 1916, to Dec. 1, 1917,	229	202	431
Number discharged Nov. 30, 1916, to Dec. 1, 1917,	229	208	437
Number remaining in sanatorium Nov. 30, 1917,	191 ¹	155 ²	346
Daily average number of patients,	195	155	350
Died (included in number discharged),	18	9	27

¹ Decrease, one.² Increase, one.TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	120	110	230
Married,	103	78	181
Widowed,	5	12	17
Divorced,	1	2	3
Totals,	229	202	431

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	30	33	63
20 to 30 years,	101	109	210
30 to 40 years,	61	39	100
40 to 50 years,	32	19	51
Over 50 years,	5	2	7
Totals,	229	202	431

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	99	39	35	87	30	26	186	69	61
Other New England States,	11	13	9	13	9	13	24	22	22
Other States,	13	4	7	14	4	7	27	8	14
Total native,	123	56	51	114	43	46	237	99	97
Other countries (22),	106	172	176	88	158	154	194	330	330
Unknown,	—	1	2	—	1	2	—	2	4
Grand totals,	229	229	229	202	202	202	431	431	431

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	148
Worcester,	32
Lynn,	23
Fall River,	14
Springfield,	14
Somerville,	11
Other cities and towns,	189
Total,	431

TABLE 6. — *Occupation.*

Ninety occupations represented. Details on file at office of the Board.

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	84	92	176	40.83
Moderately advanced,	110	79	189	43.85
Far advanced,	34	22	56	12.99
Unclassified,	—	4	4	.93
Non-tuberculous,	1	5	6	1.39
Totals,	229	202	431	—

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	37	49	86
Apparently arrested,	40	43	83
Quiescent,	32	37	69
Improved,	35	25	60
Unimproved,	50	30	80
Died,	18	9	27
Non-tuberculous,	1	5	6
Not considered,	16	10	26
Totals,	229	208	437

TABLE 9. — *Deaths.*

Males, 18; females, 9; total, 27. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

Climatological Data, Rutland State Sanatorium, Altitude, 1,160 Feet, for the Official Year beginning Dec. 1, 1916, and ending Nov. 30, 1917.

DATE.	TEMPERATURE (DEGREES).		Clear Days.	Partly Cloudy Days.	Cloudy Days.	Days with Rain or Snow.	PRECIPITATION.			WIND (MILES).			Mean Relative Humidity (Per Cent.).
	Mean.	Departure from Normal.					Rain.	Departure from Normal.	Snow.	Total.	Average per Hour.	Departure from Normal.	
1916.													
December,	26.0	+0.1	18	1	12	10	3.25	-0.42	13.6	8,264.1	11.0	+0.4	83.0
1917.													
January,	23.0	-0.3	12	2	17	8	3.48	-0.19	12.8	8,379.1	11.2	-0.7	80.0
February,	19.0	-1.3	15	4	9	8	4.10	+0.81	20.1	7,793.0	11.8	-0.3	78.3
March,	32.0	+0.9	12	8	11	15	4.59	+0.78	13.1	8,150.3	11.0	+0.2	77.0
April,	40.0	-5.1	12	4	14	10	1.99	-1.59	2.3	6,259.1	8.1	-2.7	74.1
May,	46.9	-7.4	11	6	14	15	4.16	+0.81	5.2	7,487.3	9.9	-0.1	79.0
June,	64.0	+1.4	19	2	9	17	4.46	+0.84	-	6,415.9	8.8	+0.1	91.0
July,	70.5	+2.6	17	8	6	8	1.53	-2.39	-	6,372.2	8.5	+0.1	90.3
August,	69.8	+3.9	19	6	6	10	6.16	+1.77	-	6,247.9	8.4	+0.3	88.9
September,	56.5	+3.3	19	5	3	12	1.51	-2.21	-	4,955.6	6.9	-1.5	90.2
October,	56.7	+2.8	13	4	14	15	7.01	+3.31	T.	7,761.1	10.4	+1.9	87.8
November,	32.8	-4.0	15	5	10	8	1.71	-1.22	7.4	6,705.8	9.3	-1.1	72.0
Totals,	537.2	-	182	55	125	136	43.95	-	74.5	84,791.4	115.3	-	991.6
Averages,	44.8	-3.1	15+	4+	10+	11+	3.66	+0.30	6.2+	7,065.9	9.6	-3.4	82.6

TWELFTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES

NOVEMBER 30, 1918



BOSTON

WRIGHT & POTTER PRINTING CO., STATE PRINTERS
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1919

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TRUSTEES.

ARTHUR K. STONE, M.D., *Chairman.*

CHARLES J. DOWNEY, M.D. SYLVIA B. KNOWLTON.

GEORGE A. DUNN. DANIEL L. PRENDERGAST.

WILLIAM C. GODFREY. SIMON SWIG.

JOHN B. HAWES, 2d, M.D., *Secretary.*

STATE HOUSE, BOSTON.

The Commonwealth of Massachusetts

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report:—

The four institutions under the control of this Board, the North Reading, Lakeville, Westfield and Rutland State Sanatoria, have passed through the trying and difficult conditions of the past year very successfully. They have provided a total of 403,375 days of treatment for 2,455 patients.

COUNTY HOSPITALS.

The county hospital act, mentioned in our last report as the most important feature of that year in tuberculosis work in this State, has not yet been carried out. Acting under orders from the Capital Issues Committee in Washington, the erection of several of these county hospitals was held up. The Barnstable County Sanatorium is the only one of these newly planned institutions which has been completed. This sanatorium, situated at Pocasset, providing beds for 24 patients, was opened in August, 1918. The beds are now slowly being filled, although there are still vacancies.

With the cessation of hostilities it is expected that the work on the other institutions, namely, the Bristol, Norfolk, Middlesex, Plymouth and Essex County hospitals, will be pushed rapidly. With their completion, and also that of the Lowell Tuberculosis Hospital, Massachusetts will be amply provided with bed facilities for its consumptives.

The Board feels it important, however, to call attention to the lack of uniformity in charges for board of patients at the county sanatoria as compared with that charged for patients at the State sanatoria. The latter is fixed by law at \$4 per week. At the county hospitals the price of board varies. The State pays a subsidy of \$5 per week per patient, while the remaining amount, to be paid by the town from which the patient comes or by the patient himself, is more or less of an indefinite quantity. The Board would recommend that the amount charged at the State sanatoria be raised from \$4 to \$5 per week to conform with the subsidy which the State now pays, amounting to \$5 per week, and that there be a fixed price for patients at the county hospitals, preferably \$5 per week, the remainder to be assessed on the county.

The Board would once more call attention to the fact that upon the completion of the county hospitals the four State sanatoria under its charge will be reserved more than ever for the favorable and curable incipient and moderately advanced cases of tuberculosis.

LOCAL TUBERCULOSIS HOSPITALS.

During the past year no new local municipal hospitals have been added to our list. The Lowell Tuberculosis Hospital, however, is completed, and will be ready to receive patients shortly. The tuberculosis ward of the Anna Jacques Hospital at Newburyport, which owing to lack of attendants and nurses has not yet been opened, will be ready to receive patients in the early spring. As mentioned above, the Barnstable County Sanatorium was officially opened in August, 1918, and is now receiving patients.

TUBERCULOSIS DISPENSARIES.

The influence of tuberculosis dispensaries, established in towns and cities of 10,000 inhabitants or over, is making itself felt. Not only in the prompt diagnosis of early cases of consumption, but also in the care of patients discharged from the State institutions are these dispensaries demonstrating their value. The work of this Board and the four sanatoria under its control will become increasingly efficient as long as close co-

operation exists between local boards of health and their dispensaries and the work of the State. This spirit of co-operation is already manifest, and is a most encouraging feature in the progress of the year.

SUBSIDY.

During the past fiscal year there were 2,404 claims filed by 82 cities and towns of the Commonwealth for reimbursement under the terms of the subsidy act (chapter 597, Acts of 1911). Of these claims, 309 were for various reasons either not accepted or only partially accepted. The amount of \$189,676.14 was approved by this Board for the payment of the above claims. Of this amount, \$9,006.42 was allowed to the city of New Bedford for the care of patients not exhibiting tubercle bacilli in their sputum, but who were considered after thirty days' observation to be *bona fide* cases of consumption by both the superintendent of the New Bedford Sanatorium and the State District Health Officer, according to chapter 290, Acts of 1917.

The following figures show the details of the amount paid for the subsidy for the year 1917, as compared with last year: —

	1918.	1917.
Subsidy for positive cases,	\$180,669 72	\$185,465 33
Subsidy for negative cases,	9,006 42	3,514 26
Total,	\$189,676 14	\$188,979 59
Number of cities and towns,	82	82
Total number of claims,	2,404	2,472
Number of claims rejected in full or in part,	309	380
Amount of subsidy disallowed,	\$14,703 74	\$20,309 12

AFTER-CARE WORK.

Miss Bernice W. Billings, who has been in the employ of this Board since 1912, in charge of the after-care work among discharged patients, on April 1, 1918, was transferred to the State Department of Health. Here she has the position of chief of the subdivision of tuberculosis of the Division of Communicable Diseases, and carries on her work as before only with greater opportunities to do good in this most important field of work.

REGULATIONS CONCERNING THE ADMISSION AND DISCHARGE OF PATIENTS AT THE STATE SANATORIA.

As in the past the Rutland State Sanatorium has been reserved as far as possible for the early and favorable cases of tuberculosis. The two-year clause, limiting the length of stay at that institution to two years, as well as the regulation whereby each patient on admission is put on trial for one month, to be sent elsewhere at the end of that period if not a suitable Rutland case, have continued to work out well. The Board feels in view of the increase in the number of beds soon to be provided by the county hospitals that this two-year clause and the one-month clause should be applied to the North Reading, Lakeville and Westfield sanatoria as well as to Rutland. This will give increased provision for patients who are really suitable and in need of sanatorium treatment, and will help the county and local hospitals in performing their true functions of caring for advanced consumptives.

WAR AND TUBERCULOSIS.

There has been much difference of opinion as to the effect of the war upon the incidence of tuberculosis among the military and the civilian population. The earlier reports from France in regard to the enormous amounts of tuberculosis that existed in the army as well as in the civilian population of that country were most alarming. Subsequent reports from France, as well as from Canada, have shown that the earlier statements were greatly exaggerated, and that no such great increase in tuberculosis really existed.

In Massachusetts the figures apparently show a slight increase in the incidence of tuberculosis in the civilian population during the past year. The number of men, however, discharged from the army and from the various cantonments for tuberculosis has not been very large; and of the men so discharged, in many instances the tuberculosis, while of sufficient extent to warrant exempting the patient from active military duty, was not enough to require institutional care. This is confirmed by the fact that the waiting list for men at all of our State sanatoria

during the past six months has been very small, indeed there being no waiting list at all for men for a considerable part of this period. The superintendents of our institutions have reported that there have been only 25 patients sent to them as discharged from the army or exempted in the draft from military duties on account of tuberculosis. These figures are certainly small, and do not confirm the statement of those alarmists who have prophesied an enormous increase in tuberculosis throughout this country as the result of the war.

DIFFICULTIES OF ADMINISTRATION AT THE STATE SANATORIA DURING THE PAST YEAR.

As was to be expected, the war, with the accompanying shortage of nurses, attendants and labor of all kinds, has shown up as never before the weak points in our sanatorium system. The Board has been perfectly well aware that these weak links in our chain existed, and has repeatedly called the attention of the Legislature to them.

The difficulty in securing nurses, attendants and labor of all kinds rests upon the fundamental fact that the State does not see fit to pay as high a rate of wage as is willingly and gladly paid by employers for a similar sort of labor elsewhere. There is no reason why a nurse who, in private work, can secure \$35 a week, or in Red Cross or in other forms of war service can get excellent remuneration, should go to a State institution, where not only are wages distinctly very much less than what she can get outside, but where the accommodations are woefully inadequate. Until the State sees fit to face the situation and realizes that nurses, attendants, stenographers, clerks and others who are willing to accept the confined and isolated life in the midst of sickness and disease at our State institutions should be paid and well paid, at least as much as they can get outside, it will continue to have to meet, though in perhaps less degree, the situation which now exists.

This problem has been such a difficult one that many patients urgently in need of treatment have been refused admission simply because attendants and nurses could not be provided to care for them. Each of our institutions has faced serious disaster because the engineering force and others essen-

tial to its management have left to secure higher wages elsewhere.

To those of our working force, from the superintendents and the physicians down to the humblest employees, who have remained at their posts during this trying period when many more remunerative and attractive positions either in military or civil life were open to them, the Board wishes to express its sincere thanks, and to emphasize its feeling that the service performed by these men and women has been highly patriotic and that each has done as much or more for his country as he or she could have done in service elsewhere.

The Board wishes to go on record as expressing its appreciation of the co-operation and support which it has received from the Governor and Council in its numerous appeals for increases of wages and salaries, for the reasons stated above.

PRISON LABOR.

The use of prison labor, which proved so successful an experiment last year, has been continued during the present year. Indeed it might be said that in several instances it was only by means of the help afforded by these prisoners that our institutions were kept running and were not obliged to close their doors. Last year the prisoners were assigned to one definite job, — clearing and draining ground, etc. This year they have been scattered in small groups and have often worked in the sanatoria as individual helpers at the various jobs where they were most needed. The Board feels that this use of prison labor is not really wise or advantageous, but that this should be regarded purely as an emergency measure. The Board feels that prison labor should be reserved for large pieces of somewhat rough work, where gangs of considerable size can be employed and where the men can be intelligently commanded under close supervision. Some careful policy should be worked out so that there shall be no exploitation of the prisoners, no undue financial showing for the Bureau of Prisons, nor undue charge upon the institution utilizing the labor.

The Board wishes to express its thanks to the Bureau of Prisons for all that it has done and for its broad-minded policy in helping out our institutions during a very grave emergency.

DENTISTRY.

At the Westfield State Sanatorium there is a resident dentist who has done excellent work among the children, where the need of dentistry is most important. The situation at the three remaining sanatoria, however, as far as dentistry is concerned, is not a satisfactory one. The Board still feels that better provision than now exists should be made to provide for proper and adequate care of patients' teeth while at our State sanatoria.

RED CROSS TUBERCULOSIS WORK.

During the past year many cases of tuberculosis requiring immediate treatment and care have come to the attention of the Red Cross. As this Board is in the closest touch with local tuberculosis hospitals, and facilities for care and treatment in sanatoria, hospitals and elsewhere throughout this State, an informal agreement, through the secretary of the Board, was made with the Red Cross, guaranteeing to provide suitable institutional treatment for any case requiring the same, coming to the attention of that society. So far, in every case, we have been able to provide such institutional care.

The Board has made every effort to keep in touch with the War Risk Insurance Bureau in Washington, which Bureau has charge of placing in proper sanatoria soldiers disqualified from service and discharged from the Army on account of tuberculosis. So far we have been unsuccessful in our efforts to co-operate with this bureau in this regard, despite the fact that there have been vacancies for men at each of our sanatoria during the past few months. The Board regrets that the War Risk Insurance Bureau did not see its way clear to co-operate with us in taking advantage of this opportunity.

INFLUENZA EPIDEMIC.

Experience of the Massachusetts State Sanatoria during the Influenza Epidemic.

At a meeting of the Board of Trustees of Hospitals for Consumptives held Sept. 10, 1918, the secretary called the attention of the trustees to the epidemic of influenza then prevalent

among the naval forces situated in Boston and urged that every possible measure be taken to prevent the spread of this disease in the State sanatoria. As a result, each superintendent spoke to his patients and employees in regard to the epidemic, giving advice and caution as to how to avoid infection. Despite this the disease made itself manifest in each of our institutions with the exception of the Lakeville Sanatorium, where there were no cases among the patients. Quarantine was at once established, visitors were refused admittance, patients were forbidden to leave the grounds, and employees were asked not to do so. Dr. Leary's vaccine was used extensively. This certainly did no harm, but it is impossible to say whether or not it did any good.

The effect of an attack of influenza, whether or not associated with broncho-pneumonia, upon a hitherto existing tuberculous process, was in a great majority of instances comparatively slight. This epidemic lasted during September and the greater part of October and subsided during November.

The following table gives the figures in regard to the incidence of influenza at our sanatoria:—

	Total Population.	Number of Patients.	Number of Employees.	NUMBER VACCINATED.			TOTAL NUMBER OF CASES OF INFLUENZA.			Deaths.
				Patients.	Employees.	Total.	Patients.	Employees.	Total.	
North Reading State Sanatorium.	265	195	80	-	72	72	9	8	17	-
Lakeville State Sanatorium,	357	259	99	-	49	49	-	-	-	-
Westfield State Sanatorium, .	370	265	104	-	-	-	46	7	53	4
Rutland State Sanatorium, .	520	360	150	204	59	263	66	32	98	8

EDUCATIONAL WORK.

The educational work of the Board has been continued as in the past, and has steadily increased. Many letters touching on every phase of the tuberculosis question have been written to physicians, patients and their friends, and to anti-tuberculosis workers not only in Massachusetts but all over the country. The office of the Board has become an information bureau to

which patients, physicians and others are constantly coming to interview the secretary of the Board in regard to the sanatoria and other questions connected with the State work. Members of the Board, the secretary and the four superintendents have given many informal talks on the subject of tuberculosis to the patients in the sanatoria, and outside at women's clubs, meetings of physicians and other public meetings. In addition to this articles of medical and scientific interest, based on work carried on in the sanatoria, have been published in medical journals from time to time.

The chairman of this Board, Dr. Arthur K. Stone, in addition to the large amount of time required by his position as chairman, was in the employ of the United States Army as contract surgeon for a time at Camp Devens, examining men for tuberculosis, and also did similar work among the young men in the Students' Army Training Corps at Harvard. In addition to this, our superintendents, as well as the secretary of the Board, have given considerable time to the examination of doubtful or suspected cases of tuberculosis in the draft examinations.

NORTH READING STATE SANATORIUM.

There has been an average of 198.39 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$139,200 00
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For special appropriations:—

Building for nurses' dormitory and chapel,	\$48,156 90
Hospital building,	. . . . .	82,618 50
Cottage for chief engineer,	. . . . .	4,900 00
Radial brick chimney,	. . . . .	5,000 00
		<hr/>
		\$140,675 40

LAKEVILLE STATE SANATORIUM.

There has been an average of 260.35 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$183,840 23
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For special appropriations:—

Storehouse,	\$7,000 00
Tank for reserve water supply,	6,000 00
Hay barn,	. . . . .	4,500 00
Poultry plant,	. . . . .	2,600 00
Purchase of John Letcher property,	. . . . .	2,500 00

\$22,600 00

WESTFIELD STATE SANATORIUM.

There has been an average of 262.09 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$183,749 00
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For special appropriations:—

Purchase of land owned by James Lee,	\$1,890 00
Purchase of land owned by Andrew Pignatare,	2,000 00
Water pipe and installation of hydrants,	. . . . .	2,500 00

\$6,390 00

RUTLAND STATE SANATORIUM.

There has been an average of 347.83 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$267,921 50
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For special appropriations:—

Fireproof vault,	\$3,500 00
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Respectfully submitted,

ARTHUR K. STONE, M.D.
 CHARLES J. DOWNEY, M.D.
 GEORGE A. DUNN.
 WILLIAM C. GODFREY.
 SYLVIA B. KNOWLTON.
 DANIEL L. PRENDERGAST.
 SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MACCORISON, M.D.,	.	.	.	.	<i>Superintendent.</i>
EARLE C. WILLOUGHBY, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
CHRISTINA G. WILLOUGHBY,	.	.	.	.	<i>Superintendent of Nurses.</i>
MIRA B. ROSS,	.	.	.	.	<i>Matron.</i>
J. ELLIS DOUCETTE,	.	.	.	.	<i>Supervisor.</i>
MYRON D. PLACE,	.	.	.	.	<i>Chief Engineer.</i>
WILLIAM MARGESON,	.	.	.	.	<i>Head Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, Room 465, State House, Boston.

I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1918.

The records show that during the year 498 patients have been treated and 297 have been admitted. There were 72,412 days of treatment in the year as against 72,809 days of treatment for the preceding year. The lowest daily census was 180 and the highest 208. The daily average number of patients was 198.39, which is .005 per cent. less than that of the preceding year.

There have been admitted during the year 7, or 2.35 per cent., incipient; 151, or 50.84 per cent., moderately advanced; 139, or 46.79 per cent., advanced.

There has been a daily average of 69.89 bed cases, — approximately 35 per cent. of the daily population.

Of the patients discharged, the average duration of residence in the sanatorium was 249 days, as opposed to 229 days for the preceding year; the longest residence of any person was 2,531 days, and the shortest, 1 day.

Of the 297 cases admitted, 244, or 82.15 per cent., were inside workers. Two hundred and eight cases were admitted from cities and towns having a population of 25,000 or more, as follows: Brockton, 3; Boston, 103; Cambridge, 5; Everett, 7; Fitchburg, 1; Fall River, 1; Haverhill, 2; Holyoke, 1; Lawrence, 5; Lowell, 34; Lynn, 10; Malden, 8; New Bedford, 3; Quincy, 1; Revere, 4; Salem, 3; Somerville, 14; Worcester, 3.

Forty-seven cases have been supported from private funds, 255 by cities and towns, 135 entirely by the State, and 7 private cases have either become State or town charges. There were remaining, November 30, 16 private cases, 88 city or town cases, 43 State cases and 47 unknown cases, making a total of 194.

Of the patients discharged during the year, 120 male and 68 female had gained in weight, the total gain being 2,381.25 pounds; the average male gain was 13.28 pounds, and the average female gain was 11.57 pounds; 13 patients remained stationary, 37 had lost, 54 had died and 12 were not considered.

Five patients, or 1.61 per cent., have been discharged arrested; 14, or 4.60 per cent., apparently arrested; 31, or 10.26 per cent., quiescent; 112, or 36.84 per cent., improved; 48, or 15.78 per cent., unimproved; 54, or 17.76 per cent., have died; 39, or 12.82 per cent., were not considered (duration of stay being less than one month); and 1, or .32 per cent., non-tuberculous.

The average age was 30.95 years. One hundred and fifty-nine were foreign born, and 73 were American born but of foreign parentage. Twenty-one patients admitted have been previously treated at this sanatorium.

The total cost of maintenance for the year ending Nov. 30, 1918, was \$126,354.23; deducting \$878.25 from miscellaneous sources leaves a net amount expended for maintenance of \$125,475.98. The average per capita cost per week is \$12.11. There has been collected from private patients \$3,073.99, and from cities and towns, \$26,639.42. Further details will be found in succeeding pages of this report.

MEDICAL REPORT.

There has been no change in the medical care of patients during the past year. Although our physicians are painstaking in explaining to the patients the necessity of a carefully regulated routine, we still encounter marked lack of appreciation of the importance of this part of the treatment.

LABORATORY REPORT.

Owing to the vacancy which has existed in this department during the greater part of the year, nothing but the routine work has been attempted. Eight hundred and thirty-eight sputum examinations have been made, — of which 468 were positive and 370 negative, — also 539 urine analyses, 47 blood specimens, 3 pleuritic fluids, 6 genito-urinary smears, 3 stomach

contents, 3 throat cultures and 3 Widal's. In addition to the above, 64 samples of milk were tested for fats, specific gravity and solids.

WORK PERFORMED.

The work performed by the patients during the year was as follows: 17,849 hours were devoted to housework; 913 hours to sewing; 2,732 hours to dining-room service; 167 hours to ward work; 1,978 hours to garden, picking and preparing garden truck and small fruits; 1,459 hours to clerical work; 275 hours to painting screens; 365 hours to care of animals; 730 hours to barbering; 375 hours to painting, repairing and odd jobs; 442 hours to technical laboratory work; and 2,211 hours to care of incinerator, collecting laundry, etc.

The following articles have been made up by the patients: 265 sheets, 324 pillow cases, 737 towels, 218 laundry bags, 47 tablecloths, 15 spray curtains, 9 screen covers, 21 swathes, 1 table cover, 8 kitchen aprons, 6 T-bandages and 3 ring covers.

RECOMMENDATIONS.

May I again call to your attention the need of suitable quarters for our nurses and attendants. We find it more and more difficult each year to induce efficient nurses to remain with us, owing chiefly to the impossibility of providing them with suitable living quarters.

I believe we should install a cafeteria system as soon as possible. Before this can be done, however, it will be necessary to provide a suitable place for chapel and amusement purposes in order to relieve the congestion in our present dining room, which is also used for religious services and amusements.

Plans and an estimate have been secured for the erection and equipment of a building to accommodate the superintendent of nurses and 12 nurses and attendants on the upper floor, and a chapel and amusement hall, which will seat 275 people on the lower floor.

The need for a new hospital building to accommodate bed cases is becoming more and more urgent. During the past year we have been obliged to send sick patients away from the sana-

torium, owing to lack of hospital facilities. Our hospital ward in the male unit will accommodate 29 patients.

During the past year we have had a daily average of about 40 cases in this unit, and many patients have been treated on open pavilions who should have been in bed receiving hospital care. Sketch plans and an estimate have been procured for a new hospital building. This building, to accommodate 54 patients, is to take the place of the fireproof building recommended for the past two years to the Legislature and rejected by them. Although the cost is more than that of the first-class construction of the past two years, this estimate is for a building of wooden construction.

Owing to lack of accommodations on the institution grounds for the chief engineer and first assistant engineer, these men are compelled to live some distance from the sanatorium, consequently there is no one within easy calling distance to handle any emergency that might arise during the late afternoon and night. I feel very strongly that the chief engineer should reside on the grounds. At the present time I am carrying the whole responsibility of the plant on my own shoulders after 4 P.M. I would recommend that you ask the Legislature for \$4,900 for the construction of a small cottage to house the chief engineer and his family, this cottage to be built by the institution.

Our present smokestack is in a deplorable condition and ought to be replaced by a radial brick chimney at the earliest possible moment. We have estimated the cost of this chimney to be \$5,000.

Although it does not seem desirable to ask for an appropriation for better fire protection this year, I think we should keep in mind that this is a most important matter.

IMPROVEMENTS.

Five driven wells, for which appropriation was made by the Legislature in 1918, have been installed. Small additions to the East and West cottages have been made, these buildings now accommodating 14 ex-patient employees.

Boiler No. 2 has been retubed, and boilers Nos. 1 and 2 have been recovered. A large amount of pipe covering has been done.

FARM.

Although the potatoes, beans, corn, squash and tomatoes were replanted owing to the heavy frost which visited us early in June, our farm, on the whole, has been unusually productive. The farm labor problem assumed serious proportions the latter part of August, and had it not been for the prison labor which was obtained from the Director of Prisons, it would have been utterly impossible to harvest our crops and unload the large amount of coal which came during the early fall months. A hastily erected but comfortable building was put up on the institution grounds to accommodate these men, at a cost of \$900.

MEDICAL STAFF.

Dr. Leland M. French resigned to enter the Navy on Jan. 8, 1918. Dr. Isaac R. Jankelson was appointed to fill the vacancy on Jan. 28, 1918, and resigned to enter the Fall River Hospital as an interne on Nov. 15, 1918.

ACKNOWLEDGMENTS.

Religious services have been conducted during the year by the Rev. Father Whalen, The Rev. Father Drapeau, the Rev. Frederick W. Walsh and Rabbi H. S. Bloom. Their good cheer and never-failing attention to the spiritual needs of our people are greatly appreciated.

We are again indebted to Mr. Louis B. Mayer of the Gordon-Mayer Film Company and to the Metro Exchange for providing many interesting picture shows for our patients.

During the past year we have received numerous contributions of books, magazines, flowers and clothing, for which we are deeply grateful.

To the heads of departments and to employees who have so loyally given their support during a most trying year, I wish to express my appreciation. The support and counsel given me by your Board has been of great assistance and highly appreciated.

Respectfully submitted,

CARL C. MACCORISON, M.D.,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1918:—

CASH ACCOUNT.		
Balance Dec. 1, 1917,		\$1,285 16
<i>Receipts.</i>		
<i>Institution Receipts.</i>		
Board of inmates:—		
Private,	\$3,073 99	
Cities and towns,	26,639 42	
		\$29,713 41
Sales:—		
Travel, transportation and office expenses,	\$0 05	
Food,	28 44	
Clothing and materials,	41 17	
Furnishings and household supplies,	40 08	
Medical and general care,	40 43	
Heat, light and power,	3 01	
Farm and stable:—		
Pigs and hogs,	\$196 53	
Vegetables,	83 59	
Use of teams,	7 59	
Sundries,	197 76	
	485 47	
Repairs, ordinary,	3 12	
		641 77
Miscellaneous receipts:—		
Interest on bank balances,	\$124 27	
Sundries,	112 21	
		236 48
		30,591 66
<i>Receipts from Treasury of Commonwealth.</i>		
Maintenance appropriations:—		
Balance of 1917,	\$5,119 97	
Advance money (amount on hand November 30),	6,000 00	
Approved schedules of 1918,	112,375 58	
		123,495 55
Special appropriations,		1,553 46
Total,		\$156,925 83

Payments.

To treasury of Commonwealth, institution receipts,		\$30,591 66
Maintenance appropriations:—		
Balance November schedule, 1917,	\$6,405 13	
Eleven months' schedules, 1918,	112,375 58	
November advances,	5,239 35	
	<hr/>	124,020 06
Special appropriations:—		
Approved schedules,		1,553 46
Balance Nov. 30, 1918:—		
In bank,	\$562 32	
In office,	198 33	
	<hr/>	760 65
Total,		<hr/> \$156,925 83

MAINTENANCE.

Appropriation, current year,	\$127,133 65
Balance from previous year, brought forward,	40 10
	<hr/>
Total,	\$127,173 75
Expenses (as analyzed below),	126,354 23
	<hr/>
Balance reverting to treasury of Commonwealth,	\$819 52

Analysis of Expenses.

Salaries, wages:—	
Carl C. MacCorison, superintendent,	\$3,000 00
General administration,	22,351 12
Medical service,	2,747 17
Ward service (male),	2,381 13
Ward service (female),	7,191 66
Repairs,	1,608 91
Farm and stable,	6,116 52
Grounds,	782 94
	<hr/>
	\$46,179 45
Religious instruction:—	
Catholic,	\$600 00
Jewish,	306 00
Protestant,	500 00
	<hr/>
	1,406 00
Travel, transportation and office expenses:—	
Advertising,	\$25 28
Automobile repairs and supplies,	817 17
Postage,	158 58
Printing and binding,	294 72
Stationery and office supplies,	403 95
Telephone and telegraph,	312 91
Travel,	288 71
Freight,	17 38
	<hr/>
	2,318 70
Amount carried forward,	<hr/> \$49,904 15

Amount brought forward, \$49,904 15

Food:—

Butter,	\$3,807 14	
Butterine,	703 65	
Beans,	526 18	
Bread, crackers, etc.,	91 63	
Canned soups,	9 23	
Cereals, rice, meal, etc.,	593 15	
Cheese,	135 32	
Eggs,	4,002 61	
Flour,	1,889 19	
Fish (fresh, cured and canned),	2,533 54	
Fruit (fresh),	222 13	
Fruit (dried and preserved),	1,168 78	
Lard and substitutes,	142 77	
Macaroni and spaghetti,	38 27	
Meats,	11,682 59	
Milk (fresh and substitutes),	12,752 73	
Molasses and syrups,	104 08	
Peanut butter, pie filling, etc.,	51 52	
Potatoes,	788 29	
Seasonings and condiments,	375 89	
Sugar,	1,030 59	
Tea, coffee, cocoa, etc.,	691 40	
Vegetables (fresh),	337 13	
Vegetables (canned and dried),	624 39	
Yeast, baking powder, etc.,	233 50	
Sundries,	12 27	
Freight,	488 86	
		<hr/>
		45,036 83

Clothing and materials:—

Boots, shoes and rubbers,	\$119 00	
Clothing (outer),	304 13	
Clothing (under),	89 30	
Hats and caps,	14 00	
Socks and smallwares,	46 83	
Freight,	4 05	
		<hr/>
		577 31

Furnishings and household supplies:—

Beds, bedding, etc.,	\$1,286 09	
Carpets, rugs, etc.,	87 00	
Crockery, glassware, cutlery, etc.,	494 05	
Dry goods and small wares,	199 32	
Fire hose and extinguishers,	1 35	
Furniture, upholstery, etc.,	221 24	
Kitchen and household wares,	853 69	
Laundry supplies and materials,	444 29	
Lavatory supplies and disinfectants,	177 53	
Table linen, paper napkins, towels, etc.,	472 55	
Sundries,	17 08	
Freight,	69 50	
Electric lamps,	137 45	
		<hr/>
		4,461 14

Amount carried forward, \$99,979 43

Amount brought forward, \$99,979 43

Medical and general care: —

Books, periodicals, etc.,	\$23 99	
Entertainments, games, etc.,	206 73	
Funeral expenses,	30 00	
Ice and refrigeration,	94 57	
Laboratory supplies and apparatus,	101 91	
Medicines (supplies and apparatus),	1,090 23	
Medical attendance (extra),	55 00	
Sputum cups,	397 20	
Tobacco, pipes, matches,	72 30	
Sundries,	11 50	
Freight,	91 86	
		<hr/>
		2,175 29

Heat, light and power: —

Coal,	\$6,947 48	
Freight on coal and other expenses,	4,647 47	
Gas,	82 66	
Oil,	151 82	
Operating supplies for boilers and engines,	163 26	
Freight,	10 76	
		<hr/>
		12,003 45

Farm and stable: —

Bedding materials,	\$45 53	
Blacksmithing and supplies,	95 77	
Carriages, wagons and repairs,	36 90	
Dairy equipment and supplies,	4 23	
Fencing materials,	14 85	
Fertilizers,	622 41	
Grain, etc.,	1,655 77	
Hay,	301 28	
Harnesses and repairs,	17 85	
Other live stock,	340 00	
Labor (not on pay roll),	933 25	
Rent,	88 50	
Spraying materials,	10 54	
Stable and barn supplies,	89 25	
Tools, implements, machines, etc.,	104 83	
Trees, vines, seeds, etc.,	268 49	
Veterinary services, supplies, etc.,	55 32	
Sundries,	3 40	
Freight,	227 03	
		<hr/>
		4,915 20

Grounds: —

Fertilizers,	\$113 10	
Labor (not on pay roll),	18 65	
Rent,	237 50	
Road work and materials,	173 00	
Tools, implements, machines, etc.,	37 85	
Trees, vines, shrubs, seeds, etc.,	16 67	
Freight,	50 73	
		<hr/>
		647 50

Amount carried forward, \$119,720 87

Amount brought forward, \$119,720 87

Repairs, ordinary: —

Cement, lime, crushed stone, etc.,	\$66 14
Electrical work and supplies,	207 73
Hardware, iron, steel, etc.,	261 29
Labor (not on pay roll),	96 23
Lumber, etc. (including finished products),	217 17
Paint, oil, glass, etc.,	325 41
Plumbing and supplies,	393 14
Roofing and materials,	78 01
Steam fittings and supplies,	987 83
Tents, awnings, etc.,	9 42
Tools, machines, etc.,	142 80
Boilers, repairs,	492 61
Dynamos, repairs,	3 06
Engines, repairs,	145 91
Sundries,	10 78
Freight,	73 89
Machinery repairs,	26 53

3,537 95

Repairs and renewals: —

Retubing boilers,	\$371 59
Extending chimney on administration building,	37 91
Prosperity garment press,	233 92
Addition to East cottage,	600 00
Addition to West cottage,	500 00
Steam sterilizer for canned goods,	252 82
Repairs to smokestack,	150 00
Prison camp,	949 17

3,095 41

Total expenses of maintenance, \$126,354 23

SPECIAL APPROPRIATIONS.

Appropriations for fiscal year,	\$1,650 00
Expended during the year (see statement annexed),	1,553 46

Balance Nov. 30, 1918, \$96 54

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$760 65
November cash vouchers (paid from advance money), on account of maintenance,	5,239 35
Due from treasury of Commonwealth from available appropriation, account of November, 1918, schedule,	7,978 65
	<hr/>
	\$13,978 65

Liabilities.

Schedule of November bills,	\$13,978 65
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PER CAPITA.

During the year the average number of inmates has been 198.39.

Total cost for maintenance, \$126,354.23.

Equal to a weekly per capita cost of \$12.248.

Receipt from sales, \$878.25.

Equal to a weekly per capita of \$0.0851.

All other institution receipts, \$29,713.41.

Equal to a weekly per capita of \$2.88.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Wells and suction line,	Acts of 1918, chapter 55,	\$1,650 00	\$1,553 46	\$1,553 46	\$96 54

Respectfully submitted,

CARL C. MACCORISON,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

REAL ESTATE.

Land.

Grounds (11.25 acres),	\$541 91	
Woodland (24.54 acres),	1,182 09	
Mowing (12 acres),	578 04	
Tillage (13.06 acres),	629 10	
Pasture (1.15 acres),	55 40	
Waste, etc. (39.75 acres),	1,914 75	
Total (101.75 acres),		\$4,901 29

Buildings.

Inmates,	\$41,958 62	
Administration and employees,	42,286 34	
Farm, stable and grounds,	13,085 00	
Heat, light and power,	19,375 00	
Miscellaneous,	40,932 15	
		\$157,637 11

Total land and buildings, \$162,538 40

PERSONAL ESTATE.

Travel, transportation, etc.,	\$2,692 35	
Food,	7,354 80	
Clothing,	1,053 02	
Furnishings,	28,955 79	
Medical and general care,	4,666 52	
Heat, light and power,	6,250 88	
Farm and stable,	8,517 46	
Grounds,	184 68	
Repairs, ordinary,	5,415 18	
		65,090 68
Grand total,		\$227,629 08

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1908: —

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	115	86	201
Number received during the year,	173	124	297
Number discharged or died during the year,	179	125	304
Number at the end of the fiscal year,	109	85	194
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	112.38	86.01	198.39
Average number of officers and employees during the year, .	45.93	33.32	79.25

Expenditures.

Current expenses: —

1. Salaries and wages,	\$46,179 45
2. Clothing,	577 31
3. Subsistence,	57,040 28
4. Ordinary repairs and improvements,	6,633 36
5. Office, domestic and outdoor expenses,	15,923 83
Total,	\$126,354 23

Extraordinary expenses: —

1. Wells and suction line,	1,553 46
Grand total,	\$127,907 69

Summary of Current Expenses.

Total expenditure,	\$127,907 69
Deducting extraordinary expenses,	1,553 46
	\$126,354 23
Deducting amount of sales,	878 25
Total,	\$125,475 98

Dividing this amount by the daily average number of patients — 198.39 — gives a cost for the year of \$632.49, equivalent to an average weekly net cost of \$12.16.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in sanatorium Dec. 1, 1917,	115	86	201
Number of patients admitted Dec. 1, 1917, to Nov. 30, 1918, inclusive.	173	124	297
Number discharged Dec. 1, 1917, to Nov. 30, 1918, inclusive,	179	125	304
Number of deaths (included in preceding item), . . .	30	24	54
Number remaining in sanatorium Nov. 30, 1918, . . .	109	85	194
Daily average number of patients,	112.38	86.01	198.39

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	88	62	150
Single,	76	54	130
Widowed,	8	4	12
Divorced,	1	4	5
Totals,	173	124	297

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	16	17	33
20 to 30 years,	60	54	114
30 to 40 years,	48	36	84
40 to 50 years,	34	14	48
Over 50 years,	15	3	18
Totals,	173	124	297

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	65	27	28	55	18	16	120	45	44
Other New England States,	8	11	9	5	6	5	13	17	14
Other States,	3	5	3	2	2	2	5	7	5
Total native,	76	43	40	62	26	23	138	69	63
Other countries (21),	97	130	130	62	95	97	59	225	227
Unknown,	—	—	3	—	3	4	—	3	7
Grand totals,	173	173	173	124	124	124	297	297	297

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	103
Lowell,	34
Gloucester,	15
Somerville,	14
Chelsea,	11
Lynn,	10
Peabody,	10
Other cities and towns,	100
Total,	297

TABLE 6. — *Occupation of Cases admitted.*

Sixty-eight occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	2	5	7
Moderately advanced,	89	62	151
Advanced,	82	57	139
Non-tuberculous,	—	—	—
Not determined,	—	—	—
Totals,	173	124	297

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	1	4	5
Apparently arrested,	6	8	14
Quiescent,	22	9	31
Improved,	82	50	112
Unimproved,	15	33	48
Died,	30	24	54
Not considered,	23	16	39
Non-tuberculous,	—	1	1
Totals,	179	125	304

TABLE 9. — *Deaths.*

Males, 30; females, 24; total, 54. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D.,	.	.	.	.	<i>Superintendent.</i>
GEORGE M. SULLIVAN, M.D.,	.	.	.	.	<i>Assistant Superintendent</i> <i>and Physician.</i>
MINOT W. GALE, M.D.,	.	.	.	.	<i>Physician.</i>

MRS. HARRIET M. GASSETT, ¹	.	.	.	.	<i>Matron.</i>
MISS CAROLYN A. MARSTON,	.	.	.	.	<i>Matron.</i>
MRS. MARY M. COAKLEY,	.	.	.	.	<i>Steward.</i>
ROBERT A. KENNEDY,	.	.	.	.	<i>Chief Engineer.</i>
THOMAS FRANCIS MAHONY,	.	.	.	.	<i>Farmer.</i>

¹ On leave of absence.

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1918.

Having planned for a larger number of patients than were cared for during the year 1917, with the expectation that the institution might show a higher degree of efficiency, it is disappointing to be obliged to report that owing to war conditions and the influenza epidemic the results of our work appear less encouraging than in former years. The high wages paid for labor of all kinds during the year has tempted many consumptives to postpone treatment, and some to abandon it, with the result that we seem to have cared for a sicker group of patients than ever before.

During the latter part of the year, for the first time since the institution opened, we had empty beds, at times to the number of 51. A certain restlessness has been apparent among the patients admitted, which is shown by the large number who have left the institution after a very short stay.

The number of cases admitted to the sanatorium during the year, — 405, — together with the 271 remaining in the sanatorium at the beginning of the year, makes a total of 676 cases cared for. The daily average number of patients for the year — 260.35 — was disappointing in view of the estimated number, — 270.

Although more cases were admitted during the year than during 1917, the total days of treatment — 95,028 — were 1,130 less than in 1917.

Only 1 incipient case was admitted during the year, while 50 per cent. of our admissions were moderately advanced, and 46 per cent. advanced. Twelve cases, or 3 per cent., were not classified. The condition of patients admitted, in comparison

with previous years, is shown by the daily average number of bed patients; 95.25 for 1918; 84.6 for 1917; and 71 for 1916. Of the 431 cases discharged, 16, or 3.71 per cent., were apparently arrested, and 23, or 5.33 per cent., were quiescent.

The average length of stay of the patients discharged was 225.14 days; the longest residence being 2,267 days, the shortest, 1 day.

Of the 676 cases cared for, 62 were private cases, 336 were town cases, 180 were State cases, 4 were transferred from private to town, and the settlements of 94 were undetermined.

In spite of the food conservation practiced in our institution, 251 made an average gain of 12.2 pounds. The greatest gain for a man was 51 pounds, and for a woman, 37 pounds.

MEDICAL REPORT.

As in former years, a daily opportunity is given the patients for personal consultation with the physician in charge; and our opinion that many laryngeal complications may be avoided by systematic observation of all patients' throats is confirmed by the experience of the past year.

No innovations have been made in the medical care of patients during the year. Physicians from the sanatorium have continued their services at the free tuberculosis clinic at the office of the Middleborough board of health, which is receiving the co-operation of the medical profession in the town. The opportunity offered by the clinic for consultation on pulmonary conditions is frequently taken advantage of by the physicians, and the opportunity for re-examination of ex-patients is appreciated by a large group belonging to this class.

Of 23 new cases examined at the clinic, 7 were found to be positive tubercular cases, 7 suspicious, and 1 a case of adenitis with arrested disease of the lungs.

COMPLICATIONS.

It is worthy to mention, under this heading, although it may appear paradoxical, that the wave of influenza, which seriously complicated the work of practically all hospitals, did not show itself on the premises of this sanatorium among patients or em-

ployees, although several cases occurred in the families of employees living outside the institution.

The tuberculous complications associated with pulmonary diseases have been numerous as in former years. Tuberculous laryngitis continues to be the most frequent, 116 cases having been observed during the year. Other tuberculous complications noted are: fistula in ano, 28; adenitis, 12; pleurisy with effusion, 5; tuberculous knee, 4; empyema, 3; tuberculous kidney, 2; spontaneous pneumothorax, 2; tuberculosis of the nose, 2; tuberculous ear, wrist, sternum and hip, 1 each; and epididymitis, 1. In addition to these there were 11 cases of hemorrhoids. One case of delirium tremens and 3 cases of insanity were committed to Taunton State Hospital.

Of 2,699 sputum examinations, 1,064 were positive and 1,635 negative. There were 465 urinalyses made, of which 6 showed positive evidence of nephritis.

WORK PERFORMED.

It has been very difficult to maintain the standard of former years in the amount of helpful work accomplished by patients. They were of great help in preparing vegetables for cooking or canning, and work that could be done sitting down, but there were times when we could not find, among the patients, a sufficient number to accomplish the small duties connected with the ward housekeeping and the dining-room service, which had always been done by patients in previous years. The total working hours of patients during the year aggregated 20,850.

RELIGIOUS SERVICES.

The regular seivces have been held by the Protestant and Catholic chaplains weekly, and by the Jewish chaplain fortnightly throughout the year, and their very pleasant and helpful relationships of former years have continued.

IMPROVEMENTS.

The granting of special appropriations for a large addition to the power plant, two small buildings for ex-patient employees, a pavilion for 20 patients, and a horse and wagon shed at the

dairy barn, at a time when labor and materials were difficult to obtain at any cost, seemed, at first, to place upon us a heavy burden. Work was started, however, on all of these buildings, and before the end of the year the new boiler was in operation and new laundry machinery installed, the pavilion for 20 patients was ready for occupancy (although we had no patients to occupy it) and the two buildings for ex-patient employees, although not ready for occupancy, were nearly completed.

It was necessary at harvest time to work almost our entire farm force, depleted as it was by the lure of high wages in our vicinity, on these buildings, so that the harvest was somewhat delayed.

In addition to the new construction referred to, considerable work has been done in improving living conditions at the dairy farmhouse by the installation of electric light, bathrooms and steam heat.

PRISON LABOR.

It was fortunate that a small force of prison laborers was at work here from August 1 almost to the end of the year. These prisoners were employed for the purpose of improving land, and had accomplished the drainage of some 5 acres when the shortage of farm laborers made it necessary to employ them in general farm work. Although the results of their work were very unsatisfactory in the miscellaneous farm work, by their help we were enabled to continue harvesting and at the same time continue work on new construction.

The prison laborer, as observed here, has no incentive to work at all, except to shorten his term of confinement. He has no incentive whatever for doing good work, and in the majority of cases knows nothing about the kind of work called for on our farm. In clearing or draining land, however, where he performs the same work day after day, he becomes fairly intelligent concerning the work on which he is engaged and accomplishes considerable.

The guard, who alone is held responsible for the work of his prisoners, usually knows as little of the work in hand as is the case with the prisoners, and in some cases his interest in efficiency and economy is no greater than theirs. The result is a

disappointment to a farmer who is obliged, by the very nature of his work, to take advantage of opportunities as they come, to hurry at times, and to be always alert lest some important work may be delayed.

FARM.

The sanatorium farm has had a good season. The tuberculin test has been continued with the result that we have now 38 cows which have passed several favorable tests, and a goodly number of young stock coming along with which we hope to replace the reactors which are now segregated.

More pork has been produced during the past year than ever before, and the inventory of swine is the best since the institution was established. The poultry department, although starting the year with the rather poor results of 1917, has made a good showing, with 1,200 pullets for winter layers and 5,257 pounds of dressed poultry in storage at the end of the year.

RECOMMENDATIONS.

General Storehouse. — One of the greatest needs of the institution at the present time is a general storehouse, which was asked for in 1916 and 1917. Our supplies are scattered about in small lots in different buildings, which makes it very hard to keep track of them and to issue them when needed for use. The amount requested for this purpose is \$7,000.

Storage Tank for Additional Water Supply. — At present we have no reserve water supply beyond the capacity of the 20,000-gallon tank, which has been in use since the institution was built. A 30,000-gallon tank, in addition to the present equipment, is recommended, to cost \$6,000.

Purchase of John Letcher Property. — Adjoining the sanatorium grounds, on Main Street, and running back about 400 feet, is a piece of land which is now for sale. It originally belonged to the farm on which the sanatorium was built, and should become the property of the Commonwealth as early as possible. It is recommended that this piece of land, with a house in fair condition, be purchased for \$2,500.

Hay Barn at the Dairy Farm. — The farm will begin to produce hay this coming summer, and it is necessary that a hay

barn should be built in connection with the dairy barn, in which it is proposed to provide quarters for young stock. The estimated cost of this addition is \$4,500.

Addition to Poultry Plant. — An expenditure of \$2,000 is recommended for buildings and \$600 for equipment to increase the poultry plant by the construction of breeding and incubator buildings and equipment for the same.

MEDICAL SERVICE.

There has been no change in the medical staff of the sanatorium during the year. Dr. George M. Sullivan, assistant superintendent and physician, and Dr. Minot W. Gale, physician, have continued their faithful and loyal services.

ACKNOWLEDGMENTS.

I wish to acknowledge again my appreciation of the splendid co-operation and pleasant relations of the Catholic, Protestant and Jewish clergymen who have attended to the religious interests of the sanatorium patients throughout the year; also to the Holy Name Society for its continued helpfulness, and to all who by gifts of flowers and books have added to the comfort and contentment of our patients.

Recognition of faithful service is due, also, to heads of departments and many subordinate employees who have stood by the institution through the most trying year in our experience. Patriotism, which led many to continue a service more difficult than usual in the humdrum duties of hospital life, should not pass unnoticed.

Respectfully submitted,

SUMNER COOLIDGE,

Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1918:—

CASH ACCOUNT.			
Balance Dec. 1, 1917,	.	.	\$1,319 32
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates:—			
Private,	.	\$3,124 57	
Cities and towns,	.	27,148 78	
		<hr/>	\$30,273 35
Sales:—			
Food,	.	\$11 00	
Furnishings and household supplies,	.	58 74	
Medical and general care,	.	12 50	
Farm and stable:—			
Cows and calves,	\$78 96		
Pigs and hogs,	290 00		
Hides,	4 30		
Vegetables,	1 90		
Sundries,	574 36		
		<hr/>	949 52
			<hr/>
			1,031 76
Miscellaneous receipts:—			
Interest on bank balances,	.	\$154 93	
Sundries,	.	243 07	
		<hr/>	398 00
			<hr/>
			31,703 11
<i>Receipts from Treasury of Commonwealth.</i>			
Maintenance appropriations:—			
Balance of 1917,	.	\$74 66	
Advance money (amount on hand November 30),	.	7,000 00	
Approved schedules of 1918,	\$152,461 64		
Less returned,	45 00		
		<hr/>	152,416 64
			<hr/>
			159,491 30
Special appropriations,			
			25,470 65
			<hr/>
Total,	.	.	\$217,984 38

Payments.

To treasury of Commonwealth, institution receipts,	\$31,703 11	
Maintenance appropriations: —		
Balance November schedule, 1917,	\$1,393 98	
Eleven months' schedules, 1918,	152,416 64	
November advances,	5,560 84	
	<hr/>	159,371 46
Special appropriations: —		
Approved schedules,	\$25,470 65	
November advances,	703 83	
	<hr/>	26,174 48
Balance Nov. 30, 1918: —		
In bank,	\$730 60	
In office,	4 73	
	<hr/>	735 33
Total,		<hr/> \$217,984 38

MAINTENANCE.

Appropriation, current year,	\$167,200 00	
Balance from previous year, brought forward,	10,500 00	
	<hr/>	
Total,	\$177,700 00	
Expenses (as analyzed below),	173,001 70	
	<hr/>	
Balance reverting to treasury of Commonwealth,	\$4,698 30	

Analysis of Expenses.

Salaries, wages: —		
Sumner Coolidge, M.D., superintendent,	\$3,000 00	
General administration,	28,471 93	
Medical service,	2,700 00	
Ward service (male),	2,721 42	
Ward service (female),	5,596 65	
Repairs,	4,617 30	
Farm and stable,	14,314 11	
Grounds,	3,485 93	
	<hr/>	\$64,907 34
Religious instruction: —		
Catholic,	\$600 00	
Jewish,	144 40	
Protestant,	490 00	
	<hr/>	1,234 40
Travel, transportation and office expenses: —		
Advertising,	\$6 33	
Automobiles,	1,190 49	
Automobile repairs and supplies,	2,101 20	
Postage,	220 80	
	<hr/>	
Amounts carried forward,	\$3,518 82	\$66,141 74

Amounts brought forward, \$3,518 82 \$66,141 74

Travel, transportation and office expenses— *Con.*

Printing and binding,	35 49
Stationery and office supplies,	462 05
Telephone and telegraph,	276 64
Travel,	586 09
Freight,	16 47

4,895 56

Food:—

Butter,	\$4,210 64
Butterine,	39 20
Beans,	441 17
Bread, crackers, etc.,	110 94
Cereals, rice, meal, etc.,	823 00
Cheese,	156 58
Eggs,	1,429 07
Flour,	3,370 01
Fish (fresh, cured and canned),	2,236 28
Fruit (fresh),	441 49
Fruit (dried and preserved),	329 07
Lard and substitutes,	42 94
Macaroni and spaghetti,	75 98
Meats,	12,592 19
Milk (fresh and substitutes),	219 78
Molasses and syrups,	309 57
Potatoes,	345 00
Seasonings and condiments,	282 72
Sugar,	1,464 30
Tea, coffee, cocoa, etc.,	505 23
Vegetables (fresh),	29 49
Yeast, baking powder, etc.,	27 32
Sundries,	90 59
Freight,	462 57

30,035 13

Clothing and materials:—

Boots, shoes and rubbers,	\$94 64
Clothing (outer),	187 36
Clothing (under),	65 33
Hats and caps,	15 89
Leather and shoe findings,	1 20
Socks and smallwares,	8 63
Sundries,	12 37
Freight,	7 51

392 93

Furnishings and household supplies:—

Beds, bedding, etc.,	\$962 75
Carpets, rugs, etc.,	8 00
Crockery, glassware, cutlery, etc.,	628 21
Dry goods and small wares,	237 91
Fire hose and extinguishers,	5 00

Amounts carried forward, \$1,841 87 \$101,465 36

Amounts brought forward, \$1,841 87 \$101,465 36

Furnishings and household supplies — *Con.*

Furniture, upholstery, etc.,	92 93	
Kitchen and household wares,	1,222 08	
Laundry supplies and materials,	642 40	
Lavatory supplies and disinfectants,	667 19	
Table linen, paper napkins, towels, etc.,	396 34	
Sundries,	46 61	
Freight,	69 03	
Electric lamps,	231 56	
	<hr/>	5,210 01

Medical and general care: —

Books, periodicals, etc.,	\$69 58	
Entertainments, games, etc.,	44 00	
Funeral expenses,	101 00	
Ice and refrigeration,	104 70	
Laboratory supplies and apparatus,	40 22	
Medicines (supplies and apparatus),	1,899 63	
Medical attendance (extra),	4 50	
Sputum cups, etc.,	854 80	
Tobacco, pipes, matches,	39 19	
Sundries,	9 85	
Freight,	25 74	
	<hr/>	3,193 21

Heat, light and power: —

Coal,	\$12,816 41	
Freight on coal and other expenses,	5,374 37	
Oil,	195 63	
Operating supplies for boilers and engines,	160 30	
Sundries,	101 80	
Freight,	15 28	
	<hr/>	18,663 79

Farm and stable: —

Bedding materials,	\$221 25
Blacksmithing and supplies,	337 48
Carriages, wagons and repairs,	76 50
Dairy equipment and supplies,	213 27
Fencing materials,	338 28
Fertilizers,	3,273 92
Grain, etc.,	16,504 69
Hay,	2,465 21
Harnesses and repairs,	192 48
Horses,	795 50
Cows,	940 00
Other live stock,	1,283 59
Labor (not on pay roll),	1,138 25
Spraying materials,	245 14
Stable and barn supplies,	199 12
Tools, implements, machines, etc.,	2,160 18
Trees, vines, seeds, etc.,	562 73

Amounts carried forward, \$30,947 59 \$128,532 37

<i>Amounts brought forward,</i>	\$30,947 59	\$128,532 37
Farm and stable — <i>Con.</i>		
Veterinary services, supplies, etc.,	108 18	
Sundries,	1,093 87	
Freight,	1,396 33	
		33,545 97
Grounds: —		
Fertilizers,	\$262 07	
Road work and materials,	315 66	
Tools, implements, machines, etc.,	213 36	
Trees, vines, shrubs, seeds, etc.,	33 06	
Freight,	23 92	
		848 07
Repairs, ordinary: —		
Brick,	\$68 00	
Cement, lime, crushed stone, etc.,	110 24	
Electrical work and supplies,	522 86	
Hardware, iron, steel, etc.,	803 98	
Labor (not on pay roll),	363 78	
Lumber, etc. (including finished products),	1,647 31	
Paint, oil, glass, etc.,	724 81	
Plumbing and supplies,	813 64	
Roofing and materials,	182 65	
Steam fittings and supplies,	113 58	
Tents, awnings, etc.,	64 73	
Tools, machines, etc.,	580 82	
Sundries,	96 25	
Freight,	82 31	
		6,174 96
Repairs and renewals: —		
Three bathrooms and heating apparatus at farm-house,	\$1,999 76	
Horse and wagon shed,	1,420 57	
Shingling four shacks of original buildings,	525 00	
		3,945 33
		\$173,046 70
Clothing, etc., deduction,		45 00
Total expenses for maintenance,		\$173,001 70

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1917,	\$1,161 11
Appropriations for fiscal year,	44,600 00
Total,	\$45,761 11
Expended during the year (see statement annexed),	\$25,470 65
Reverting to treasury of Commonwealth,	8 07
	25,478 72
Balance Nov. 30, 1918,	\$20,282 39

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$735 33	
November cash vouchers (paid from advance money):—		
On account of maintenance,	\$5,560 84	
On account of special appropriations,	703 83	
	<hr/>	6,264 67
Due from treasury of Commonwealth from available appropriation account November, 1918, schedule,	13,585 06	
	<hr/>	\$20,585 06

Liabilities.

Schedule of November bills,	\$20,585 06
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PER CAPITA.

During the year the average number of inmates has been 260.35.

Total cost for maintenance, \$173,001.70.

Equal to a weekly per capita cost of \$12.7787.

Receipt from sales, \$1,031.76.

Equal to a weekly per capita of \$0.0762.

All other institution receipts, \$30,671.35.

Equal to a weekly per capita of \$2.2655.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Rendering plant,	Special Acts of 1917, chapter 374,	\$1,300 00	\$155 24	\$1,209 47	\$0 53 ¹
Brick smoke stack,	—	2,700 00	997 80	2,692 46	7 54 ¹
Additions to power plant and laundry,	Acts of 1918, chapter 55,	36,500 00	17,633 03	17,633 03	18,866 97
Pavilion for 20 patients,	Acts of 1918, chapter 55,	3,600 00	3,429 42	3,401 46	198 54
Pavilion for 10 employees,	Acts of 1918, chapter 55,	2,500 00	2,449 66	2,437 41	62 59
Pavilion for 6 female patients,	Acts of 1918, chapter 55,	2,000 00	845 71	845 71	1,154 29
		\$48,600 00	\$25,470 65	\$28,309 54	\$20,290 46

¹ Reverting to treasury of the Commonwealth.² Transferred from extraordinary expenses.

Respectfully submitted,

SUMNER COOLIDGE,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate,	\$233,632 16
Personal estate,	92,519 84
Total,	\$326,152 00

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of fiscal year, .	181	90	271
Number received during the year,	261	144	405
Number discharged or died during the year,	280	151	431
Number at end of fiscal year,	162	83	245
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	175	85	260
Average number of officers and employees during the year, .	84	29	113

Expenditures.

Current expenses:—

1. Salaries and wages,	\$64,907 34	
2. Clothing,	392 93	
3. Subsistence,	30,035 13	
4. Ordinary repairs and improvements,	6,174 96	
5. Office, domestic and outdoor expenses,	71,491 34	
Total,	<hr/>	\$173,001 70

Extraordinary expenses:—

1. Rendering plant,	\$155 24	
2. Brick smoke stack,	997 80	
3. Additions to power plant and laundry,	17,633 03	
4. Pavilion for 20 patients,	3,401 46	
5. Pavilion for 10 employees,	2,437 41	
6. Pavilion for 6 female patients,	845 71	
Total,	<hr/>	25,470 65

Grand total,		\$198,472 35
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Summary of Current Expenses.

Total expenditures,	\$198,472 35
Deducting extraordinary expenses,	25,470 65
	<hr/>
	\$173,001 70
Deducting amount of sales,	1,031 76
	<hr/>
Total,	\$171,969 94

Dividing this amount by the daily average number of patients — 260.35 — gives a cost for the year of \$660.53, equivalent to an average weekly net cost of \$12.70.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1917, to Nov. 30, 1918, inclusive.	261	144	405
Number of patients discharged Dec. 1, 1917, to Nov. 30, 1918, inclusive.	280	151	431
Number of deaths (included in preceding item),	61	23	84
Number remaining in sanatorium Nov. 30, 1918,	162	83	245
Daily average number of patients,	175	85	260
Daily average number of bed patients Dec. 1, 1917, to Nov. 30, 1918.	58	37	95

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	123	76	204
Single,	121	62	183
Widowed,	10	5	15
Divorced,	2	1	3
Totals,	261	144	405

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	22	22	44
20 to 30 years,	87	53	145
30 to 40 years,	81	43	124
40 to 50 years,	48	15	63
Over 50 years,	23	6	29
Totals,	261	144	405

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	108	35	32	58	16	21	166	51	53
Other New England States,	10	13	13	8	8	5	18	21	18
Other States,	5	6	5	9	5	4	14	11	9
Total native,	123	54	50	75	29	30	198	83	80
Other countries (30),	138	203	206	69	111	109	207	314	315
Unknown,	—	4	5	—	4	5	—	8	10
Grand totals,	261	261	261	144	144	144	405	405	405

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	154
Fall River,	33
Brockton,	19
Taunton,	19
Quincy,	15
New Bedford,	13
Other cities and towns (88),	152
Total,	405

TABLE 6. — *Occupations.*

One hundred and fourteen occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	—	1	1
Moderately advanced,	130	73	203
Advanced,	122	67	189
Not classified,	6	3	9
Non-tuberculous,	1	—	1
Not examined,	2	—	2
Totals,	261	144	405

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	10	6	16
Quiescent,	17	5	22
Improved,	130	60	190
Unimproved,	34	34	68
Died,	61	23	84
Not considered,	23	23	46
Non-tuberculous,	5	—	5
Totals,	280	151	431

TABLE 9. — *Deaths.*

Males, 61; females, 23; total, 84. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D.,	.	.	.	.	Superintendent.
ROY MORGAN, M.D.,	.	.	.	.	Assistant Superintendent and Physician.
H. W. COLTON, M.D.,	.	.	.	.	Physician.
PAUL J. McKENNA,	.	.	.	.	Dentist.

— — — — —,	.	.	.	.	Superintendent of Nurses.
HERBERT W. SMITH,	.	.	.	.	Steward.
BENJAMIN J. SANDIFORD,	.	.	.	.	Chief Engineer.
ROBERT J. GOLDBERG,	.	.	.	.	Farmer.

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the ninth annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1918.

DAYS OF TREATMENT.

There have been 95,630 hospital days, which is 1,095 less than in 1917. Up to September our daily average number of patients was as high as the previous year, but during the latter part of that month an epidemic of influenza occurred and for about four weeks no new patients were admitted. This, together with the absence of a waiting list for boys over twelve, caused our patient population to drop about fifteen below the capacity of the sanatorium.

NUMBER TREATED AND CLASSIFICATION.

Of the 481 patients that have been under treatment, 218 were new admissions. The others remained over from the previous year. Table No. 7 shows the number of cases admitted in each classification, also a subdivision of each class according to the activity of the disease as indicated by symptoms, A class meaning mild, B moderate and C severe. Reduced to percentages this shows that of the number admitted 25 per cent. were incipient, 33 per cent. moderately advanced and 42 per cent. advanced. Nearly all of the incipient cases were children. The advanced class — 91 in number — were very largely active progressive cases, — only 24 of the entire number could be given even a hopeful prognosis. Eleven patients died within three months after admission. The daily average number of bed patients was 86, — 39 males and 47 females.

LENGTH OF RESIDENCE.

The average length of stay, which was 376 days last year, has been further increased to 417 days. In this connection it is interesting to note that the percentage of patients discharged as apparently arrested has increased from 39 per cent. a year ago to 47 per cent. this year. It is obvious that the longer the period of sanatorium treatment the greater will be the number of patients who can be discharged without symptoms of active disease and the more permanent will be the arrest of the tuberculous process.

CONTAGIOUS DISEASES.

The latter part of September we had the first case of epidemic influenza. A patient, who within a few hours developed definite symptoms of this disease, was admitted to the children's ward. Although isolated promptly, 33 other patients in that ward became ill with influenza during the following two weeks. The disease appeared in but three of our wards. The children's ward, with a population of 80, had 34 cases, the girls' pavilion, with 33 patients, had 9 cases, the men's ward, with 59 patients, had but 3 cases. This made a total of 46 cases of influenza among the patients and 7 cases among the employees. Four patients died from influenza, but each of them also had advanced tuberculosis.

During the year we had 2 cases of diphtheria develop in the children's ward. One occurred two months after the other. Both were transferred to the diphtheria ward at the Noble Hospital in Westfield. One recovered and one died.

SUPPORT OF PATIENTS.

Of the 218 patients admitted, 24 paid their own board, 122 were supported by cities and towns, 5 were State minor wards, 51 were State charges, and the status of 16 has not yet been determined. The receipts from private patients were \$2,506.58 and from cities and towns \$37,929.58.

The gross cost of maintenance per week has been \$12.18. Deducting sales the per capita cost was \$12, which is \$1.26 per week more than in 1917.

GAIN IN WEIGHT.

The following table shows the changes in weight for a series of years of all discharged patients: —

	Number gained.	Failed to gain.	Total.	Per Cent. gained.	Average Amount gained (Pounds).
1915,	215	99	314	68	10.5
1916,	185	99	284	65	9.5
1917,	143	67	210	68	13.0
1918,	149	69	218	68	13.5

This shows a greater average gain in 1918 than in preceding years. I think this is due in part to a more rational diet. I have become convinced that the system of stuffing patients with all the food they can be induced to swallow is wrong. A reasonable amount of well-cooked food, varied in kind as much as possible and served in an appetizing way at three regular meals, produces the best results. Several months ago we discontinued serving lunches between meals to all except the children. The doctors and nurses observed very soon that digestive disturbances, ranging from distress in the stomach following meals to nausea and vomiting, were noticeably fewer in number among the adults. The patients have felt better generally and have more uniformly gained in weight.

I wish I could impress upon the minds of the doctors in general practice that it is time to abandon the theory that eggs and milk will cure tuberculosis. Rest in bed, food varied to the taste of the patient, and limited to three meals a day, and fresh air are the three essentials in combating active tuberculosis, and their relative importance, in my opinion, are in the order just given. Patients who are willing to remain in bed for a few weeks following admission get a better and quicker start towards recovery than those who object to such restrictions of their liberties. Halfway measures in taking rest during the early stage of tuberculosis often delay or modify the good results we may reasonably expect to obtain, even when treatment is instituted promptly.

IMPORTANCE OF DENTISTRY IN SANATORIA.

We have made a distinct advance by adding to the staff a resident dentist. For two years preceding April, 1918, we have had the services of a local dentist two or three half days a month. This plan was of some value as the worst cases and emergency work could be attended to. Thorough work, however, was impossible. On April 1, 1918, Dr. Paul J. McKenna was appointed on the staff, and immediately began systematic dental work with the children and with those adults that were considered hopeful cases. The adults with progressive tuberculosis were given only palliative treatment. Very striking beneficial results have been noticed with several patients following the cleaning up of their foul mouths due to decayed and uncared for teeth. Symptoms due to the systemic infection cleared up rapidly and weight was put on very fast in some cases. Fever, malaise, loss of weight and digestive disturbances are all symptoms common in tuberculosis, but it must be remembered that they also may each be due to carious teeth and suppurating gums. The teeth and mouth in such patients must be given proper care first of all or else whatever treatment for tuberculosis may be instituted will be of little, if any, avail. Furthermore, a diagnosis of active tuberculosis may be erroneous in a person who has a healed tuberculous lesion but who is manifesting symptoms of toxæmia due to mouth infection. Dr. McKenna has found that out of 90 children patients examined by him only 7 had had previous dental attention. The following table is a summary of the work he has accomplished in eight months.

Number of patients examined,	243
Prophylaxis,	219
Amalgam fillings,	484
Cement fillings,	375
Compound fillings,	150
Temporary fillings,	135
Pulp cappings,	78
Treatments,	39
Surgical dressings,	50
Devitalization,	3

Canal dressings,	78
Root fillings,	7
Extractions,	272
<hr/>	
Total operations and treatments,	2,133

CONDITION ON DISCHARGE.

Of the 224 patients discharged, 45 per cent. were apparently arrested, 10 per cent. quiescent, 10 per cent. improved, 10 per cent. unimproved, 20 per cent. died, and 5 per cent. were not considered as they remained less than thirty days.

SANATORIUM SCHOOL.

The school work has been continued in a very efficient manner under Miss Waterbury, as principal, and her corps of four teachers. The total number enrolled has increased each year; in 1916 it was 162; in 1917, 229; and 293 this year. The average attendance by grades has been as follows: —

Grade I.,	15.95
Grade II.,	12.47
Grade III.,	15.27
Grade IV.,	10.37
Grade V.,	19.47
Grade VI.,	22.06
Grade VII.,	12.57
Grade VIII.,	4.78
Sewing,	15.62
Cooking,	6.40
Manual training,	12.84
Total enrolment,	293

IMPROVEMENTS RECOMMENDED.

Water Supply and Fire Protection. — But one special appropriation was granted last year. That was \$3,000 for water tank and hydrants. The price of pipe and labor costs advanced so much more than anticipated when this estimate was made that it was found impossible to do more than purchase and erect a 30,000-gallon tank with suitable tower. The small balance would barely buy the hydrants, leaving nothing for pipe and installation. It was decided to ask for an additional appropria-

tion of \$2,500 to complete the system, so as to furnish adequate fire protection as well as an ample water supply at all times.

Purchase of Land. Lot 1. — This consists of 6.3 acres and is owned by James Lee. It is level tillage land that has been under cultivation for several years. We need the additional acreage for field crops. This land is bounded on two sides by the sanatorium property, and should be incorporated with it. The price is \$300 an acre and is worth that amount for the use of the institution.

Lot 2. — This tract consists of 28.8 acres and is owned by Andrew Pignatare. It is bounded on two sides by the sanatorium property. While the most of it is wood land, there are several acres that would be valuable to us as pasture for young stock and hogs. We rented it last year for that purpose. The price is \$2,000.

FARM.

We have had the most successful year since the sanatorium has been established. Climatic conditions were favorable for good crops. The shortage of farm labor, however, was a serious handicap and necessitated careful planning and good management on the part of the head farmer. I am glad to report that he was equal to the emergency. We raised 1,460 bushels of potatoes, produced and canned 2,000 gallons of tomatoes, besides growing all other summer and winter vegetables that the institution needed. Most of the pork and all of the milk used was produced on the farm.

ACKNOWLEDGMENTS.

Religious services have been held each Sunday as in years past by the Catholic, Protestant and Jewish chaplains. Besides their interest in the spiritual welfare of the patients and employees, each of them has shown an earnest desire at all times to co-operate with the superintendent in every way that would make the work of the institution run more smoothly, and so aid in the contentment and comfort of the patients.

There has been but one change in the medical staff. Dr. J. J. Cosgrove resigned Dec. 12, 1917, to accept a commission in the

Army. His place as assistant physician was filled by the appointment of Dr. Hubert Colton.

I feel this year more than ever before that the employees of the sanatorium who have stood by and have helped me carry on the work of the institution deserve my most sincere thanks for their loyalty and self sacrifice. Many inducements were offered to go elsewhere, and the temptations were in some cases hard to resist. These men and women, therefore, who remained and rendered this faithful service should have the credit for the most satisfactory year of sanatorium work.

To you, the trustees, I wish to show my appreciation for the many evidences of your confidence and good will to me personally, and also for your willingness to devote your time and study to the problems of administration whenever occasion required it.

Respectfully submitted,

HENRY D. CHADWICK,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1918:—

CASH ACCOUNT.

Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$2,506 12
Cities and towns,	37,929 58
	<hr/>

\$40,435 70

Sales:—

Medical and general care,	\$1 25
-------------------------------------	--------

Farm and stable:—

Cows and calves, \$255 00	
Pigs and hogs, . 1,721 00	
Hides, . . . 5 40	
Vegetables, . . . 25	
Use of teams, . . . 23 55	
Sundries, . . . 377 96	
	<hr/>
	2,383 16
	<hr/>

2,384 41

Miscellaneous receipts:—

Interest on bank balances,	\$160 02
Sundries,	86 49
	<hr/>

246 51

\$43,066 62

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1917,	\$3,694 89
Advance money (amount on hand November 30),	10,000 00
Approved schedules of 1918,	151,383 40
	<hr/>

165,078 29

Special appropriations, 564 60

Total,

\$208,709 51

Payments.

To treasury of Commonwealth, institution receipts,		\$43,066 62
Maintenance appropriations: —		
Balance October schedule, 1917,	\$579 63	
Balance November schedule, 1917,	3,367 51	
Eleven months' schedules, 1918,	151,383 40	
November advances,	7,494 35	
	<hr/>	162,824 89
Special appropriations: —		
Approved schedules,	\$564 60	
Less advances, last year's report,	252 25	
	<hr/>	\$312 35
November advances,	176 40	
	<hr/>	488 75
Balance Nov. 30, 1918: —		
In bank,	\$2,001 79	
In office,	327 46	
	<hr/>	2,329 25
Total,		<hr/> \$208,709 51

MAINTENANCE.

Appropriation, current year,	\$166,000 00
Expenses (as analyzed below),	165,989 28
	<hr/>
Balance reverting to treasury of Commonwealth,	\$10 72

Analysis of Expenses.

Salaries, wages: —		
Henry D. Chadwick, superintendent,	\$3,000 00	
General administration,	29,184 63	
Medical service,	3,156 50	
Ward service (male),	2,775 11	
Ward service (female),	8,767 38	
Repairs,	1,396 24	
Farm and stable,	14,957 26	
Grounds,	593 14	
	<hr/>	\$63,830 26
Religious instruction: —		
Catholic,	\$600 00	
Jewish,	249 60	
Protestant,	320 00	
	<hr/>	1,169 60
Travel, transportation and office expenses: —		
Advertising,	\$14 33	
Automobiles,	693 98	
Automobile repairs and supplies,	2,372 68	
Postage,	75 65	
	<hr/>	
Amounts carried forward,	\$3,156 64	\$64,999 86

<i>Amounts brought forward,</i>	\$3,156 64	\$64,999 86
Travel, transportation and office expenses — <i>Con.</i>		
Printing and binding,	94 46	
Stationery and office supplies,	616 59	
Telephone and telegraph,	462 80	
Travel,	376 22	
Sundries,	19 60	
Freight,	51 83	
		4,778 14
Food: —		
Butter,	\$2,970 93	
Butterine,	318 90	
Beans,	325 43	
Bread, crackers, etc.,	131 13	
Cereals, rice, meal, etc.,	590 33	
Cheese,	202 26	
Eggs,	5,270 72	
Flour,	2,564 10	
Fish (fresh, cured and canned),	2,451 11	
Fruit (fresh),	669 94	
Fruit (dried and preserved),	2,013 61	
Lard and substitutes,	1,257 83	
Macaroni and spaghetti,	101 68	
Meats,	10,968 18	
Milk (fresh and substitutes),	134 46	
Molasses and syrups,	1,055 99	
Peanut butter, pie filling, etc.,	162 74	
Potatoes,	723 36	
Seasonings and condiments,	327 29	
Sugar,	857 15	
Tea, coffee, cocoa, etc.,	508 34	
Vegetables (fresh),	54 08	
Vegetables (canned and dried),	553 62	
Yeast, baking powder, etc.,	180 68	
Sundries,	62 87	
Freight,	270 71	
		34,727 44
Clothing and materials: —		
Boots, shoes and rubbers,	\$96 57	
Clothing (outer),	491 54	
Clothing (under),	52 51	
Dry goods for clothing,	371 63	
Hats and caps,	14 18	
Leather and shoe findings,	8 01	
Socks and small wares,	100 80	
Freight,	2 27	
		1,137 51
Furnishings and household supplies: —		
Beds, bedding, etc.,	\$2,476 02	
Carpets, rugs, etc.,	473 68	
Crockery, glassware, cutlery, etc.,	964 71	
<i>Amounts carried forward,</i>	\$3,914 41	\$105,642 95

<i>Amounts brought forward,</i>	\$3,914 41	\$105,642 95
Furnishings and household supplies—<i>Con.</i>		
Dry goods and small wares,	503 69	
Fire hose and extinguishers,	152 10	
Furniture, upholstery, etc.,	292 34	
Kitchen and household wares,	1,859 16	
Laundry supplies and materials,	2,242 20	
Lavatory supplies and disinfectants,	613 76	
Table linen, paper napkins, towels, etc.,	726 54	
Sundries,	25 56	
Freight,	74 70	
Electric lamps,	193 48	
		10,597 94
Medical and general care:—		
Books, periodicals, etc.,	\$22 52	
Entertainments, games, etc.,	359 82	
Funeral expenses,	29 00	
Ice and refrigeration,	92 87	
Laboratory supplies and apparatus,	170 00	
Manual training supplies,	13 19	
Medicines (supplies and apparatus),	1,455 96	
Medical attendance (extra),	23 15	
Return of runaways,	1 24	
School books and supplies,	171 35	
Sputum cups, etc.,	324 57	
Tobacco, pipes, matches,	6 26	
Sundries,	6 52	
Freight,	19 05	
		2,695 50
Heat, light and power:—		
Coal,	\$10,477 67	
Freight on coal and other expenses,	5,271 12	
Oil,	353 85	
Operating supplies for boilers and engines,	285 34	
Sundries,	45 03	
Freight,	13 82	
		16,446 83
Farm and stable:—		
Bedding materials,	\$456 05	
Blacksmithing and supplies,	117 68	
Carriages, wagons and repairs,	73 13	
Dairy equipment and supplies,	699 25	
Fencing materials,	81 30	
Fertilizers,	182 75	
Grain, etc.,	8,159 44	
Hay,	4,122 31	
Harnesses and repairs,	60 87	
Horses,	91 50	
Cows,	680 00	
Other live stock,	45 00	
Labor (not on pay roll),	63 35	
<i>Amounts carried forward,</i>	\$14,832 63	\$135,383 22

<i>Amounts brought forward,</i>	\$14,832 63	\$135,383 22
Farm and stable—<i>Con.</i>		
Rent,	25 00	
Spraying materials,	121 80	
Stable and barn supplies,	14 41	
Tools, implements, machines, etc.,	446 71	
Trees, vines, seeds, etc.,	245 78	
Veterinary services, supplies, etc.,	117 47	
Sundries,	1 20	
Freight,	683 99	
		16,488 99
Grounds:—		
Trees, vines, shrubs, seeds, etc.,	\$76 79	
Freight,	82	
		77 61
Repairs, ordinary:—		
Cement, lime, crushed stone, etc.,	\$504 40	
Electrical work and supplies,	531 61	
Hardware, iron, steel, etc.,	1,164 61	
Labor (not on pay roll),	2,405 36	
Lumber, etc. (including finished products),	1,283 62	
Paint, oil, glass, etc.,	854 73	
Plumbing and supplies,	583 18	
Roofing and materials,	653 43	
Steam fittings and supplies,	2,308 51	
Tents, awnings, etc.,	36 65	
Tools, machines, etc.,	1,648 08	
Boilers, repairs,	257 91	
Dynamos, repairs,	30 60	
Engines, repairs,	282 87	
Sundries,	108 64	
Freight,	92 51	
Machinery repairs,	13 75	
		12,760 46
Repairs and renewals,		1,279 00
Total expenses for maintenance,		\$165,989 28
SPECIAL APPROPRIATIONS.		
Balance Dec. 1, 1917,		\$1,647 40
Appropriations for fiscal year,		3,000 00
Total,		\$4,647 40
Expended during the year (see statement annexed),	\$564 60	
Reverting to treasury of Commonwealth,	1,082 80	
		1,647 40
Balance Nov. 30, 1918,		\$3,000 00

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$2,329 25	
November cash vouchers (paid from advance money): —		
On account of maintenance,	\$7,494 35	
On account of special appropriations,	176 40	
	<hr/>	7,670 75
Due from treasury of Commonwealth from available appropriation account November, 1918, schedule,	4,605 88	
	<hr/>	\$14,605 88

Liabilities.

Schedule of November bills,	\$14,605 88
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PER CAPITA.

During the year the average number of inmates has been 262.09.

Total cost for maintenance, \$165,989.28.

Equal to a weekly per capita cost of \$12.1794.

Receipt from sales, \$2,384.41.

Equal to a weekly per capita of \$0.1749.

All other institution receipts, \$40,682.21.

Equal to a weekly per capita of \$2.9850.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Water tank and hydrants,	Resolves of 1918, chapter 55,	\$3,000 00	-	-	\$3,000 00
Sewage filtration beds,	Resolves of 1917, chapter 103,	13,000 00	\$564 60	\$11,917 20	1,082 80 ¹
		\$16,000 00	\$564 60	\$11,917 20	\$3,000 00

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

HENRY D. CHADWICK,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Land,	\$13,499 00
Buildings,	152,771 29
Miscellaneous,	45,798 21
Total,	\$212,068 50
Personal estate,	77,488 75
Total valuation,	\$289,557 25

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number received during the year,	113	105	218
Number passing out of the institution during the year, .	124	100	224
Number at the end of the fiscal year in the institution, .	120	137	257
Daily average attendance (number of inmates actually present) during the year.	129.90	132.19	262.09
Average number of employees and officers during the year, .	65	38	103

Expenditures.

Current expenses:—

1. Salaries and wages,	\$63,830 26
2. Clothing,	1,137 51
3. Subsistence,	34,727 44
4. Ordinary repairs,	12,760 46
5. Office, domestic and outdoor expenses,	53,533 61

Total, \$165,989 28

Extraordinary expenses:—

1. Permanent improvements to existing buildings and construction,	—
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Grand total, \$165,989 28

Summary of Current Expenses.

Total expenditures,	\$165,989 28
Deducting extraordinary expenses,	—

\$165,989 28

Deducting amount of sales,	2,384 41
--------------------------------------	----------

Total, \$163,604 87

Dividing this amount by the daily average number of patients—262.09—gives a cost for the year of \$624.23, equivalent to an average weekly net cost of \$12.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1917, to Nov. 30, 1918, inclusive.	113	105	218
Number of patients discharged Dec. 1, 1917, to Nov. 30, 1918, inclusive.	124	100	224
Number of deaths (included in preceding item),	-	-	-
Number in sanatorium Dec. 1, 1917,	131	132	263
Number remaining Nov. 30, 1918,	120	137	257

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	20	17	37
Single,	91	85	176
Widowed,	2	3	5
Totals,	113	105	218

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	51	47	98
14 to 20 years,	19	27	46
21 to 30 years,	22	14	36
31 to 40 years,	10	11	21
41 to 50 years,	10	6	16
51 to 60 years,	1	-	1
Totals,	113	105	218

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	60	22	20	70	29	16	130	51	36
Other New England States,	3	3	4	3	3	4	6	6	8
Other States,	9	9	9	1	4	3	10	13	12
Total native,	72	34	33	74	36	23	146	70	56
Other countries (21),	36	72	69	28	61	72	64	133	141
Unknown,	5	7	11	3	8	10	8	15	21
Grand totals,	113	113	113	105	105	105	218	218	218

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	10
Fall River,	10
Springfield,	22
Westfield,	15
Worcester,	13
Other cities and towns,	148
Total,	218

TABLE 6. — *Occupations.*

Thirty-six occupations represented. Details on file at office of the Board.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient: —			
A,	15	23	38
B,	5	12	17
C,	—	—	—
Moderately advanced: —			
A,	25	18	43
B,	13	11	24
C,	4	1	5
Far advanced: —			
A,	14	10	24
B,	25	16	41
C,	12	14	26
Totals,	113	105	218

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	52	49	101
Quiescent,	11	11	22
Unimproved,	10	13	23
Improved,	20	4	24
Died,	24	19	43
Non-tuberculous,	—	—	—
Not considered, ¹	7	4	11
Totals,	124	100	224

¹ Under treatment less than thirty days.TABLE 9. — *Deaths.*

Males, 24; females, 19; total, 43. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

RUTLAND STATE SANATORIUM.

RESIDENT OFFICERS.

ERNEST B. EMERSON, M.D.,	. . . . .	<i>Superintendent.</i>
LEON A. ALLEY, M.D.,	. . . . .	<i>Assistant Superintendent</i> <i>and Physician.</i>
DAVID E. MANN, M.D.,	. . . . .	<i>Physician.</i>
HALBERT C. HUBBARD, M.D.,	. . . . .	<i>Physician.</i>
— — — — —	. . . . .	<i>Bacteriologist.</i>

DELYA E. NARDI,	. . . . .	<i>Superintendent of Nurses.</i>
WALTER C. BROWN,	. . . . .	<i>Chief Engineer.</i>
CHARLES E. CHAPMAN,	. . . . .	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

The annual report of the Rutland State Sanatorium for the year ending Nov. 30, 1918, is hereby submitted.

There were 345 patients in the sanatorium at the beginning of the year and 291 at its close.

The largest number present at one time was 372, and the smallest number was 282.

The daily average number of patients for the ten months ending September 30 was 357.

The daily average from October 1 to November 30 was 302.

The falling off of the census followed the appearance of the influenza epidemic, during which time no patients were admitted and many went home. There were 90 cases occurring in rapid succession among employees and patients, with 8 deaths.

Since the subsidence of the initial outbreak there have been scattering cases of a somewhat milder type. The deaths in each instance were in those developing pneumonia. There has been apparently no material effect on the tuberculous process in the majority of instances.

Approximately 60 per cent. of the nursing and housekeeping force were incapacitated at one time, and there was but one physician on duty. The emergency was acute, and met only by long hours of work on the part of those fortunate enough to escape, assisted by volunteers from among the patients. At the height of the epidemic our household was saddened by the deaths of two of our nurses, Miss Alice Mahoney and Mrs. Elizabeth Lidster. In a time of stress they did for others beyond their strength; faithful and unfaltering in the performance of duty they succumbed to the disease.

There were 133 incipient cases admitted, approximately 25 per cent. less than last year.

There were 179 moderately advanced cases, 10 less than last year, and 135 far advanced cases, 79 more than last year, or an increase of 141 per cent. in this group.

There were 510 patients discharged, including deaths. Of those discharged, 348 gained 4,109.5 pounds in weight, an average gain of 11.8 pounds per person.

Including the deaths there were 110 who lost 1,021.5 pounds, an average loss of 9.28 pounds per person.

Forty-three cases were not considered, the duration of treatment being less than one month.

There were forty-six deaths, 19 more than last year.

Of the discharges, there were approximately 33 per cent. less arrested cases and 50 per cent. less apparently arrested cases than discharged last year. These differences are due, in part, to a change in the type of case admitted and to a closer classification.

Staff meetings have been held throughout the year for the examination and classification of the new admissions, discharges, and for the discussion of treatment and other subjects pertaining to the institution.

Hot and dry weather characterized the opening of the season, this being followed by a period of cold throughout the month of June. Crops starting early were later stunted by the cold, and would have been a complete failure had we not been favored by the late coming of the frosts.

Farm labor has been unobtainable at anything short of munition workers' wages, consequently our chief support and ally has been the prison labor obtained from the Bureau of Prisons, but here again the ranks have been thin by reason of the small number in custody and the high wages which have kept men out of trouble. The farm was further handicapped by the necessity of using some of these men as scullery workers, this class of help being practically unobtainable at any price.

The herd has been tuberculin tested twice, under the direction of Dr. Thayer of Worcester, and the reactors quarantined or eliminated.

During the year especial attention has been given to the conservation and serving of food. The results are shown in the decreased expenditure for food and by a reduction of 57 per

cent. in the amount of garbage. A further reduction in the amount of edible waste is anticipated upon the completion of the new kitchen and the installation of the cafeteria system. The new kitchen will probably be ready for occupancy early in the year.

REPAIRS.

The institution has been painted on the outside, with the exception of the old farmhouse, chapel and domestic service buildings. Much of this painting has been two-coat work, and there has been a large amount of glazing. All of the tin roofs have been painted.

A new roof has been put on the domestic service building, and the tar and gravel roofs repaired. Many of these roofs, however, are in such condition that it is only a matter of a year or two when they must be entirely renewed.

The old farmhouse has been shingled and steam heat installed. This is now the winter quarters of the prisoners.

The Bartlett barn has been repaired, and a new floor and stanchions put in the barn opposite the institution.

Extensive repairs on boilers and engines have been made, and considerable steam pipe covering renewed.

In co-operation with the town, repairs were made on the Muschopauge road. This work was done with prison labor at a nominal expense and to the great advantage of both the institution and the town.

The following new equipment has been installed: fire hose, fire extinguishers, floor polishing machine, rendering machine, linoleum, milking machine, 3-ton truck, 1-ton truck and X-ray equipment.

RECOMMENDATIONS.

Quarters should be provided for the better housing of our employees. At the present time many of them are in rooms or dormitories opening off the ward corridors, and are obliged to share the same toilet facilities with the patients. Non-tuberculous employees object, and not without reason, to this arrangement. Moreover, such intimate mingling of patients and employees is subversive of discipline, and has nothing to recommend it.

I recommend that plans and estimates be obtained for a fire-proof building accommodating 30 persons including quarters for a few married couples, and that they be submitted to the Legislature of 1920.

The time is not far distant when an appropriation must be made for new boilers and repairs on the heating system.

Dr. Nishan Hampson resigned Sept. 14, 1918, to accept a position with the Boston board of health.

The Rev. Father John F. O'Connor was transferred to the Cathedral Parish, Springfield, and the Rev. John R. Cōpplestone resigned to accept a pastorate in Bethlehem, N. H. A word of tribute to these gentlemen is not out of place. They had served the sanatorium for many years, and both were respected and loved for their work and influence for good. Their going was cause for genuine regret on the part of all. The Rev. Father Thomas F. McNamara and the Rev. James F. Allen were appointed to fill the vacancies. Rabbi H. S. Bloom was appointed Jewish chaplain, succeeding Dr. Joseph Suffrin.

I am grateful for the hearty co-operation of officers and employees during a trying year, a year made difficult by war and pestilence. I have a deep sense of gratitude for the support, counsel and confidence of your Board, so manifest during the year.

Respectfully submitted,

ERNEST B. EMERSON,

Superintendent.

RUTLAND, Dec. 1, 1918.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1918: —

CASH ACCOUNT.

*Receipts.**Institution Receipts.*

Board of inmates: —

Private,	\$8,301 99	
Cities and towns,	38,851 02	
	<hr/>	\$47,153 01

Sales: —

Food,	\$8 69	
Medical and general care,	334 35	
Farm and stable: —		
Cows and calves, \$289 40		
Pigs and hogs,	55 00	
Hides,	50 34	
Use of teams,	6 00	
Sundries,	731 45	
	<hr/>	1,132 19
		<hr/>
		1,475 23

Miscellaneous receipts: —

Interest on bank balances,	\$414 67	
Rent,	4 00	
Sundries,	300 80	
	<hr/>	719 47
		<hr/>
		\$49,347 71

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of 1917, September, October and November,	\$29,717 79	
Advance money (amount on hand November 30),	10,000 00	
Approved schedules of 1918, eleven months,	229,650 11	
	<hr/>	269,367 90

Special appropriations,		11,618 91
		<hr/>
Total,		\$330,334 52

Payments.

To treasury of Commonwealth, institution receipts,		\$49,347 71
Maintenance appropriations:—		
Balance September, October and November		
schedule, 1917,	\$29,717 79	
Eleven months' schedules, 1918,	229,650 11	
November advances,	8,143 66	
	<hr/>	267,511 56
Special appropriations:—		
Approved schedules,		11,618 91
Balance Nov. 30, 1918:—		
In bank,	\$1,413 61	
In office,	442 73	
	<hr/>	1,856 34
Total,		<hr/> \$330,334 52

MAINTENANCE.

Appropriation, current year,	\$254,000 00
Expenses (as analyzed below),	249,213 06
	<hr/>
Balance reverting to treasury of Commonwealth,	\$4,786 94

Analysis of Expenses.

Salaries, wages:—	
Dr. Ernest B. Emerson, superintendent,	\$3,000 00
General administration,	48,441 13
Medical service,	4,564 87
Ward service (male),	1,925 73
Ward service (female),	6,932 39
Repairs,	3,193 35
Farm and stable,	8,286 09
Grounds,	1,712 83
	<hr/>
	\$78,056 39
Religious instruction:—	
Catholic,	\$600 00
Jewish,	278 88
Protestant,	518 35
	<hr/>
	1,397 23
Travel, transportation and office expenses:—	
Automobiles,	\$927 08
Automobile repairs and supplies,	1,985 61
Postage,	339 00
Printing and binding,	270 56
Stationery and office supplies,	739 61
Telephone and telegraph,	872 79
Travel,	419 01
Freight,	18 20
	<hr/>
	5,571 86
Amount carried forward,	<hr/> \$85,025 48

<i>Amount brought forward,</i>		\$85,025 48
Food:—		
Butter,	\$10,250 33	
Beans,	436 21	
Bread, crackers, etc.,	125 73	
Cereals, rice, meal, etc.,	1,184 41	
Cheese,	110 23	
Eggs,	5,212 28	
Flour,	4,515 02	
Fish (fresh, cured and canned),	2,005 00	
Fruit (fresh),	889 02	
Fruit (dried and preserved),	2,278 22	
Macaroni and spaghetti,	25 26	
Meats,	27,625 70	
Milk (fresh and substitutes),	9,622 22	
Molasses and syrups,	326 65	
Peanut butter, pie filling, etc.,	236 46	
Potatoes,	1,891 18	
Seasonings and condiments,	826 76	
Sugar,	1,792 98	
Tea, coffee, cocoa, etc.,	828 08	
Vegetables (fresh),	1,018 01	
Vegetables (canned and dried),	1,748 34	
Yeast, baking powder, etc.,	243 21	
Freight,	600 04	
		73,791 34
Clothing and materials:—		
Boots, shoes and rubbers,	\$94 35	
Clothing (outer),	226 00	
Clothing (under),	20 14	
Socks and small wares,	24 00	
Freight,	2 25	
		366 74
Furnishings and household supplies:—		
Beds, bedding, etc.,	\$1,404 12	
Carpets, rugs, etc.,	1,407 55	
Crockery, glassware, cutlery, etc.,	1,124 41	
Dry goods and small wares,	80 07	
Fire hose and extinguishers,	1,060 07	
Furniture, upholstery, etc.,	196 80	
Kitchen and household wares,	1,186 99	
Laundry supplies and materials,	719 46	
Lavatory supplies and disinfectants,	1,419 67	
Table linen, paper napkins, towels, etc.,	758 53	
Electric lamps,	378 08	
Freight,	63 27	
		9,799 02
Medical and general care:—		
Books, periodicals, etc.,	\$29 28	
Entertainments, games, etc.,	80 25	
Funeral expenses,	20 00	
Gratuities,	4 53	
Laboratory supplies and apparatus,	1,059 99	
<i>Amounts carried forward,</i>	\$1,194 05	\$168,982 58

<i>Amounts brought forward,</i>	\$1,194 05	\$168,982 58
Medical and general care — <i>Con.</i>		
Medicines (supplies and apparatus),	1,856 54	
Medical attendance (extra),	5 50	
School books and supplies,	12 68	
Sputum cups, etc.,	786 69	
Water,	2,654 23	
Freight,	22 34	
		6,532 03
Heat, light and power: —		
Coal,	\$24,779 38	
Freight on coal and other expenses,	18,508 43	
Oil,	244 84	
Operating supplies for boilers and engines,	209 15	
Sundries,	13 32	
Freight,	17 96	
		43,773 08
Farm and stable: —		
Bedding materials,	\$430 59	
Blacksmithing and supplies,	248 93	
Carriages, wagons and repairs,	364 95	
Dairy equipment and supplies,	619 13	
Fencing materials,	43 00	
Fertilizers,	931 32	
Grain, etc.,	12,423 50	
Hay,	105 56	
Harnesses and repairs,	128 60	
Horses,	445 50	
Cows,	181 50	
Other live stock,	207 00	
Labor (not on pay roll),	170 50	
Spraying materials,	2 44	
Stable and barn supplies,	40 23	
Tools, implements, machines, etc.,	338 96	
Trees, vines, seeds, etc.,	521 81	
Veterinary services, supplies, etc.,	212 33	
Freight,	131 78	
		17,547 63
Grounds: —		
Tools, implements, machines, etc.,	\$39 63	
Trees, vines, shrubs, seeds, etc.,	7 70	
Freight,	1 34	
		48 67
Repairs, ordinary: —		
Brick,	\$217 00	
Cement, lime, crushed stone, etc.,	58 40	
Electrical work and supplies,	183 53	
Hardware, iron, steel, etc.,	336 96	
Labor (not on pay roll),	393 71	
Lumber, etc. (including finished products),	705 26	
<i>Amounts carried forward,</i>	\$1,894 86	\$236,883 99

Amounts brought forward, \$1,894 86 \$236,883 99

Repairs, ordinary — *Con.*

Paint, oil, glass, etc.,	1,596 74	
Plumbing and supplies,	139 06	
Roofing and materials,	599 09	
Steam fittings and supplies,	1,268 29	
Tools, machines, etc.,	37 41	
Boilers, repairs,	285 59	
Dynamos, repairs,	7 20	
Engines, repairs,	43 74	
Machinery, repairs,	37 47	
Freight,	100 30	
	<hr/>	6,009 75

Repairs and renewals: —

Truck,	\$4,296 98	
Rendering machine,	550 00	
Repairs on engine,	599 38	
Heating system, old farm house,	760 00	
Paint, oil and freight,	112 96	
	<hr/>	6,319 32

Total expenses for maintenance, \$249,213 06

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1917,	\$2,042 08
Appropriations for fiscal year,	55,000 00

Total,	\$57,042 08
Expended during the year (see statement annexed),	11,618 91

Balance Nov. 30, 1918, \$45,423 17

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,856 34	
November cash vouchers (paid from advance money), on account of maintenance,	8,143 66	
Due from treasury of Commonwealth from available appropriation account of November, 1918, schedule,	9,562 95	
	<hr/>	\$19,562 95

Liabilities.

Schedule of November bills,	\$19,562 95
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PER CAPITA.

During the year the average number of inmates has been 347.83.

Total cost for maintenance, \$249,213.06.

Equal to a weekly per capita cost of \$13.7784.

Receipt from sales, \$1,475.23.

Equal to a weekly per capita of \$0.0815.

All other institution receipts, \$47,872.48.

Equal to a weekly per capita of \$2.6467.

Special Appropriations.

Object.	Act or Resolve.	Whole Amount.	Expended during Fiscal Year.	Expended to Date.	Balance at End of Year.
Improvement of land, prison labor account, . . .	Resolves of 1916, chapter 108, . . .	\$5,000 00	\$2,042 08	\$5,000 00	-
Kitchen, service and storehouse building, . . .	Resolves of 1918, chapter 55, . . .	55,000 00	9,576 83	9,576 83	\$45,423 17
		\$60,000 00	\$11,618 91	\$14,576 83	\$45,423 17

Respectfully submitted,

ERNEST B. EMERSON,
Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Land.

Grounds (41.217 acres),	\$17,573 80
Lawns and buildings, 31.217 acres.	
Roads, 10 acres.	
Woodland (69 acres),	2,553 00
Mowing (75.51 acres),	7,751 00
Tillage (56.39 acres),	6,296 00
Tillage, 52.01 acres.	
Garden, 4.38 acres.	
Orchard (6.75 acres),	1,350 00
Pasture (28.83 acres),	720 75
Waste and miscellaneous (87.03 acres),	2,109 45
Rough pasture, 62.33 acres.	
Sewer beds, 5.98 acres.	
New coal trestle, .50 acre.	
Meadow swamp, 18.22 acres.	
Total (364.727 acres),	\$38,154 00
Sewerage system,	15,508 32
	<hr/>
	\$53,662 32

Buildings.

Institution buildings,	\$444,930 00
Farm, stable and grounds,	26,200 00
Miscellaneous,	2,425 00
Total,	<hr/> 473,555 00

Present value of all personal property as per inventory of

Dec. 1, 1918, \$527,217 32

SPECIAL REPORT.

The following report is prepared in accordance with a resolution of the National Conference on Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients at beginning of fiscal year,	190	155	345
Number received during the year,	256	199	455
Number of discharges during the year,	282	228	510
Number of deaths included in preceding item,	29	17	46
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	196.97	150.86	347.83
Average number of officers and employees during the year, .	104.1	60.8	164.9

Expenditures.

Current expenditures:—

1. Salaries and wages,	\$78,056 39
2. Clothing,	366 74
3. Subsistence,	73,791 34
4. Ordinary repairs,	6,009 75
5. Office, domestic and outdoor expenses,	84,669 52

Total,	\$242,893 74
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Extraordinary expenses:—

1. Permanent improvements to existing buildings,	6,319 32
--	----------

Grand total,	\$249,213 06
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STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1917, . . .	190	155	345
Number admitted Nov. 30, 1917, to Dec. 1, 1918, . . .	256	199	455
Number discharged Nov. 30, 1917, to Dec. 1, 1918, . . .	282	228	510
Number remaining in sanatorium Nov. 30, 1918, . . .	165	126	291
Daily average number of patients,	196.97	150.86	347.83
Died (included in number discharged),	29	17	46

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Single,	160	115	275
Married,	93	74	167
Widowed,	3	10	13
Totals,	256	199	455

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	25	24	49
20 to 30 years,	127	113	240
30 to 40 years,	68	43	111
40 to 50 years,	29	17	46
Over 50 years,	7	2	9
Totals,	256	199	455

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	112	40	42	86	26	23	198	66	65
Other New England States, . . .	12	16	9	15	7	9	27	23	18
Other States,	19	11	14	13	10	7	32	21	21
Total native,	143	67	65	114	43	39	257	110	104
Other countries (25),	113	188	190	85	155	160	198	343	350
Unknown,	—	1	1	—	1	—	—	2	1
Grand totals,	256	256	256	199	199	199	455	455	455

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	159
Worcester,	31
Lynn,	18
Chelsea,	13
Somerville,	13
Malden,	10
Springfield,	10
Other cities and towns (89),	201
Total,	455

TABLE 6. — *Occupations.*

One hundred and six occupations represented. Details on file at office of the Board.

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	60	73	133	29.23
Moderately advanced,	119	60	179	39.34
Far advanced,	71	64	135	29.67
Unclassified,	6	2	8	1.75
Totals,	256	199	455	—

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	12	17	29
Apparently arrested,	21	20	41
Quiescent,	84	70	154
Improved,	58	47	105
Unimproved,	56	33	89
Died,	29	17	46
Non-tuberculous,	1	2	3
Not considered,	21	22	43
Totals,	282	228	510

TABLE 9. — *Deaths.*

Males, 29; females, 17; total, 46. Details on file at office of the Board.

TABLE 10. — *Cause of Death.*

Details on file at office of the Board.

THIRTEENTH ANNUAL REPORT

OF THE

TRUSTEES OF MASSACHUSETTS HOSPITALS
FOR CONSUMPTIVES

NOVEMBER 30, 1919



BOSTON
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TRUSTEES.

ARTHUR K. STONE, M.D., *Chairman.*

CHARLES J. DOWNEY, M.D.	SYLVIA B. KNOWLTON.
GEORGE A. DUNN.	DANIEL L. PRENDERGAST.
WILLIAM C. GODFREY.	SIMON SWIG.

JOHN B. HAWES, 2d, M.D., *Secretary.*

STATE HOUSE, BOSTON.

The Commonwealth of Massachusetts

REPORT OF THE TRUSTEES OF MASSACHUSETTS HOSPITALS FOR CONSUMPTIVES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

In accordance with the act establishing this Board (chapter 474, Acts of 1907) we submit the following report:—

The four institutions under control of this Board, the North Reading, Lakeville, Westfield and Rutland State Sanatoria, have passed through the trying and difficult conditions of the past year very successfully. They have provided a total of 376,494 days of treatment for 2,355 patients.

PROGRESS IN CONTROLLING TUBERCULOSIS IN MASSACHUSETTS, 1907-19.

Up to the present time Massachusetts has adhered to the system of unpaid boards of trustees to carry on much of the State's administrative work. Although such a system undoubtedly has certain obvious disadvantages, its advantages are equally striking. In the year 1907 Governor Guild appointed the late Arthur T. Cabot as chairman of the commission on Hospitals for Consumptives. This commission was authorized to expend \$300,000, later raised to \$315,000, to select and purchase sites, build and equip three sanatoria for tuberculous patients, in the northeastern, southeastern and western parts of the State, respectively, each to contain a minimum of 150 beds. To those familiar with building costs at that time it was almost an Herculean task to complete this work within the financial limit set. That this work was done, however, and subsequent events have proved that it was well done, within the appropriation, was largely owing to the foresight, skill and untiring attention to details which Dr. Cabot devoted

to this work. It is hard to conceive how any system other than that of an unpaid board of trustees could have obtained either his services or those of the other busy men and women who thus served the Commonwealth willingly and faithfully. Dr. Cabot, a wealthy man, a surgeon of international reputation, and well along in years, had earned a well-deserved rest from his labors. Notwithstanding the fact that he was already failing in health and suffering from the disease that eventually caused his death, he accepted the Governor's appointment, and until the time of his death in 1912 gave to the State services that no salary or amount of money could have possibly obtained.

At this time, as far as tuberculosis was concerned, the affairs of the State of Massachusetts were in chaos. There was one State sanatorium at Rutland, to which only a small and selected group of patients were admitted, each of whom had to come up to certain high physical standards and in addition be able to pay his own board. Local tuberculosis hospitals were conspicuous by their absence, and the medical profession was in no way awake to its responsibilities in handling this disease. Dr. Cabot, as chairman of this Board, and as chairman of the Associated Tuberculosis committees of the Massachusetts Medical Society, continued the work that he had commenced when president of this society, in organizing the profession throughout the State to combat tuberculosis, to establish tuberculosis associations and dispensaries, and to raise the standard of diagnosis and treatment. Along with other members of the Board he devoted an immense amount of time in looking over every available site for the three new institutions, and when these were completed and the Board automatically took over not only their management but that of the Rutland State Sanatorium as well, he instituted a system for the admission of patients whereby this important task was put in the hands of the medical profession as a whole rather than in the hands of a selected few.

It was largely through his influence and that of this Board that the so-called tuberculosis hospital act, which required that every city should have a local tuberculosis hospital, and the tuberculosis dispensary act were passed. He saw and approved

of the need and wisdom of the subsidy act, which has served as an important stimulus to the municipalities throughout the State to provide adequate facilities for the tuberculous patients in their midst. He was largely responsible for the act requiring that the subject of tuberculosis and its prevention be taught in the public schools in this State in those grades in which the subjects of hygiene and physiology are taught. He spoke at numerous meetings throughout the State on the subject of tuberculosis and its prevention, and of more importance still, through his influence, was enabled to enlist the services of others to help out in this cause. At the International Tuberculosis Conference in Washington in 1908 he was very largely responsible for the fact that the Massachusetts exhibit was one of the striking features of this Congress. After his death in 1912 the work that he had begun did not stop. The Board of Trustees, which has undergone many changes, has endeavored to maintain his high standards and to carry out his ideas, and to a great extent has succeeded.

In 1907 there were at the most not more than 400 beds in institutions for consumptives in this State. At present there are well over 3,000. Twelve years ago there were only a few scattered tuberculosis dispensaries outside of Boston. At the present time there is a dispensary, well equipped, with a nurse in attendance, in every city and town of 10,000 inhabitants or over. The Boston Tuberculosis Association at that time was the only organization among the laity dealing with this problem, while at present, bound together by the Massachusetts Tuberculosis League, there are thirty associations, committees, etc., each of which is doing serious work to eliminate consumption. The real early diagnosis of tuberculosis was almost unknown among the medical profession fifteen years ago; while at the present time although there is still room for an immense amount of improvement in this respect, the ability of the average general practitioner to diagnose this disease in its early stages has steadily increased. In 1907 Rutland, with its 350 beds, was the only public institution for consumptives; while at present, in 1919, there are four State sanatoria with over 1,000 beds, five county institutions providing 280 beds, and other county hospitals in the process of construction, as well as 21

municipal hospitals and sanatoria, for advanced and emergency cases, which provide 1,394 beds more.

The State of Massachusetts has reason to believe that it is well equipped at the present time to handle its tuberculosis problem, and this Board, in this its last annual report, cannot refrain from expressing its satisfaction that during the twelve years of its existence it has had the opportunity of playing a part, and perhaps a large part, in the progress which has been made in placing the State of Massachusetts in the enviable position in regard to tuberculosis which it now occupies.

WAR AND TUBERCULOSIS.

As mentioned in our last report, as soon as this country entered the war it became evident that certain steps must be taken to provide for the tuberculous soldiers who undoubtedly would be discovered in the course of the draft and subsequent examinations. Accordingly, this Board made a detailed survey of the hospitals and sanatoria in this State and collected accurate and up-to-date information in regard to the number of vacant beds in each institution and the possibilities of enlarging each institution, whether a local hospital or a county or State sanatorium, to offer additional provision for tuberculous soldiers and sailors. This information, as soon as it was collected, was passed on to the proper war authorities in this State and in Washington. Despite the fact that during the past year there have been vacancies for men at all of our State sanatoria, as well as numerous vacancies in the county and local institutions, the Board is unable to see that the war authorities have taken advantage of the large number of vacant beds and the excellent facilities, at the lowest possible cost, lying idle in this State. Instead of taking advantage of this opportunity the war authorities sent many Massachusetts men to the military sanatoria at a great distance from their own homes, and sent others to private institutions at a cost three to four times that of the State sanatoria. It has only been toward the fall of the year 1919 that the New England headquarters of the War Risk Insurance Bureau, which has charge of these tuberculous soldiers and sailors, began to take advantage of the vacant beds in our State sanatoria. Up to the

present time we have cared for 102 such men. As the government apparently has ample funds to provide for such men, it has seemed wise to make a charge of \$15 a week, which covers the actual cost of caring for these men, rather than the customary \$4 a week, according to the statute. This has been done after consultation with the Attorney-General. The Board feels that only in the method of payment does the problem offered by these tuberculous men who have been in the military service differ from that of other men and women who happen to be civilians, and that the question of vocational training and of occupational therapy is just as important for those patients who for perfectly good reasons were not in service as it is for those men who were so fortunate as to be able to wear their country's uniform. The Board feels, therefore, that in the future, more than ever before, it should be impressed upon the patients that occupation of some kind is to be looked upon as a necessary and integral part of their treatment. For years there has been in force a vote of the Board that "work shall be regarded as a therapeutic agent and prescribed as such." Objection to this ruling, which at first was marked, is now becoming less and less as its wisdom becomes better known among patients and their friends. In addition to work for patients while in the sanatorium, one of the most important if not the most important part of treatment of these patients is the question of securing for them a proper employment after leaving the sanatorium. The Board feels that only in a very small percentage of cases will farm colonies or workshops solve this problem, and that in a vast majority of instances the patient must endeavor to find an occupation compatible with his standard of health and on a sound economic basis.

The employment at each sanatorium of patients who have been discharged from the institution will help in this problem. Such employment has provided a start for many patients, who by thus being kept under observation for some months after their discharge from the institution as patients were not only given a means of earning their living but were prevented from breaking down, as might have been the case had they sought employment outside of the institution. Many of the most loyal employees at our State sanatoria, some of whom are in most trusted positions, are ex-patients.

DIFFICULTIES OF ADMINISTRATION DURING THE PAST YEAR.

The Board cannot express in too high terms its appreciation of the splendid manner in which the superintendents of the four State sanatoria have met and overcome the difficulties of administration during the past year. Not only has the question of help, male and female, been an ever-present and almost insurmountable one, but, also, of still greater import and a far more potent cause for anxiety has been the spirit of social unrest and discontent on the part of many of the patients. While it is true that in almost every instance the number of actual disturbers and agitators has been small, the presence of even one or two such inmates very soon makes itself felt, and most forcibly felt, among the entire patient population. Although the superintendents have ample authority to discharge such offenders and have been urged so to do not only by this Board of Trustees but also by members of the Legislature, it is a most difficult task to find out the exact person or persons who are chiefly responsible for the trouble, and still more difficult to persuade the general public that such a discharge is not only wise and just but an absolute necessity. The Board feels that every effort must be made, however, to eliminate such foci of disturbance and unrest, and that the public will gradually come to realize that no injustice is done thereby, and, indeed, that it would be an injustice to the other patients to allow such offenders to remain in the institution. While it must be remembered that the patients at our State sanatoria are all sick men and women and that the utmost gentleness and tact must be used in enforcing necessary rules and regulations, there comes a time when more stringent measures must be used.

COUNTY HOSPITALS.

At the present time there are five county hospitals in actual operation caring for patients. The Hampshire County Sanatorium at Leeds for the past five years has demonstrated its value under the superintendency of Dr. Charles E. Perry. This institution, in addition to caring for the tuberculous patients from Hampshire County, provides accommodation for patients from the counties of Berkshire, Franklin and

Hampden as well. In July, 1918, the Barnstable County Sanatorium at Pocasset was opened. Dr. Harry S. Wagner, formerly assistant superintendent at the Westfield State Sanatorium, is in charge of this institution. This sanatorium will prove of the greatest help to patients from the scattered villages and communities along the Cape. In June, 1919, the Norfolk County Sanatorium at South Braintree and the Plymouth County Sanatorium at South Hanson were opened. Dr. Alfred J. Roach, formerly assistant superintendent at the State Infirmary at Tewksbury, is in charge of the Norfolk County institution, and Dr. Bradford H. Pierce, formerly Health Officer of the city of Cambridge, is in charge of the Plymouth County institution. Each of these institutions is attractively situated and embodies the latest and best ideas of construction. There are 66 beds in the Plymouth County Hospital and 71 in the Norfolk County Hospital. Both of these institutions are nearly filled at the present time. In November, 1919, the Bristol County Tuberculosis Hospital, with 67 beds, was opened at Attleboro. Dr. Adam S. MacKnight, formerly District Health Officer under the State Department of Health, is superintendent of this institution, which is now receiving patients.

LOCAL TUBERCULOSIS HOSPITALS.

The only addition to the number of local tuberculosis hospitals is that of the tuberculosis ward of the Anna Jaques Hospital at Newburyport. This ward, situated on the grounds of the Anna Jaques Hospital, a private corporation in the city of Newburyport, embodies the most modern methods of construction and will care admirably for the tuberculous patients of that city. It has been approved by this Board, and the city of Newburyport is entitled to receive the State subsidy of \$5 per week per patient, and the city likewise has been exempted from its share of the cost of the Essex County Sanatorium, the construction of which it is hoped will soon be resumed.

The tuberculosis hospital of the city of Lowell, the construction of which has been delayed for years, has now been

practically completed for the past six or seven months. Apparently the actual opening of this hospital is as far away at the present time as it was a year ago. It is to be hoped that public opinion in this large city, which for so many years has been urgently in need of a local tuberculosis hospital, and which city for an equal number of years has managed to successfully evade the law on this subject, will bring about the opening of this institution in the near future.

CONSULTATION SERVICE.

One of the most interesting experiments, and what bids fair to be a most important step in the progress of our campaign against tuberculosis, is now being carried on in Barnstable County at the Barnstable County Sanatorium. The superintendent of this institution, Dr. Wagner, gives part of his time to seeing patients in consultation with the various private physicians in that county. The expense of this is borne by the Massachusetts Tuberculosis League. Such consultations are free in the great majority of instances, but patients who are able to do so are expected to pay a moderate fee. Such a consultation service as this helps in three ways: In the first place, it helps the individual patients, who by this means get proper assistance and advice which otherwise they could not obtain. Next, it is of assistance to the general practitioner not only in helping him diagnose and treat this or that individual patient but in training him in modern methods of diagnosis. Third, it broadens the outlook of the sanatorium superintendent himself. The life of the average institutional superintendent or physician is at best a most confining one. The work is arduous and in far too many instances the physician in charge is apt to get into a mental rut and to be swamped by a multiplicity of details. For some time the Board has considered the advisability of the superintendents of the sanatoria under its care doing some form of consultation work, such as is being carried on in Barnstable County. It has not seen its way clear as yet to carry out this plan. At the Rutland and Lakeville State sanatoria there is an out-patient department which is used to a considerable extent by patients and physicians in the vicinity, but in few instances does the physician go outside his

institution to see patients. At the Westfield State Sanatorium Dr. Chadwick and his assistants see many patients in consultation with doctors from near-by towns and cities who bring their patients to the sanatorium for examination. The Board has also considered the advisability of allowing the medical officers of the sanatoria to spend a certain amount of time each year doing general medical work at one of the large out-patient departments or dispensaries in Boston or elsewhere. The Board feels that such work as this, in which the physician does not deal exclusively but only occasionally with tuberculosis, would have a broadening and stimulating influence and would be of distinct help to the physician in caring for his tuberculous patients at the sanatorium, and especially in regard to the handling of non-tuberculous complications.

The Board feels that there should be more frequent meetings of the staff of the various sanatoria, at which meetings special problems and interesting cases might be considered, and the Board likewise feels that more frequent visits on the part of the institution staffs to the other tuberculosis sanatoria and hospitals in New England would have an excellent effect, and that the money spent for this purpose is a sound and economic investment.

AFTER-CARE WORK.

The Board does not feel that the present method of caring for the patients discharged from our State sanatoria is altogether satisfactory. During the years 1912-18 this work was in the hands of Miss Bernice Billings, who gave the utmost personal and individual attention to each case as far as her time and strength would permit. It was manifest at that time that more nurses were needed to assist Miss Billings in her work. At the request of the State Department of Health this work was transferred to that Department and placed in the hands of a corps of public health nurses under the general supervision of Miss Billings. As a result of this Miss Billings herself came into little or no contact with the patients, and the actual visiting was done by others. Theoretically, it should have been possible for the same standard of work to have been carried out. Practically, this has proved to be a difficult task.

In the press of the additional work brought on by the influenza epidemic and by the war, the personal and human touch, which is so necessary for the successful carrying out of after-care treatment, seems to have been lost, temporarily at least.

The Board would recommend, therefore, that there be appointed at least one nurse or social worker, if possible a woman combining the experience of a trained nurse with the education and knowledge of a trained social worker. It should be the duty of this person to spend a certain time at each of the four State sanatoria in succession, and while there to get acquainted with the patients, the physicians and nurses; to give advice to those who are about to leave the institution; and to persuade those who are becoming restless to remain longer, if possible. She would also serve to keep the director of the new division of sanatoria in close touch with the patients and with the superintendents and other physicians at the sanatoria. The legislative committee recently appointed to investigate the Rutland State Sanatorium was of the opinion that such a social worker would be a valuable adjunct to the central office force. This worker will likewise do a certain amount of home visiting, and, most important of all, will get in close touch and work in co-operation with other public health nurses whether under the charge of the State Department of Health or local boards of health. It is intensive work of this character, such as is carried on at the Massachusetts General Hospital and in other general hospitals, that goes a long way toward making the gain that the patient has received while under treatment at the institution of a permanent nature. We believe that the State of Massachusetts can spend money in no better way than in this after-care work, and that until such after-care work is developed on the highest possible plane, the results in this State in eliminating tuberculosis will not be as satisfactory as they should. We believe that not only should such a system as this be adopted for the State sanatoria at North Reading, Lakeville, Westfield and Rutland, but that it also should be extended into the county hospitals for consumptives as well. We do not believe that any nurse, no matter how great her ability, who approaches the patient for the first time, quite unacquainted with his or her experience

and record while at the sanatorium, and equally ignorant of the home conditions, surroundings and work of the patient, can accomplish as much as a similar nurse who has had the opportunity of knowing the patient and especially his mental attitude toward the disease while an inmate of the institution.

SUBSIDY.

The subsidy department has been under the efficient care of Louis N. Phaneuf during the past year. The amount paid to cities and towns this year for patients coming under the subsidy act in approved local municipal tuberculosis hospitals or in county hospitals was \$173,956.12.

The amount of work to be done in looking up patients throughout the Commonwealth for whom the subsidy has been demanded has increased steadily from year to year. At the present time it is impossible for our subsidy agent to accomplish all this work single handed and to go into as much detail as should be done. He is in urgent need of an assistant or proper transportation facilities to assist him. Request for an automobile to provide proper transportation facilities for our subsidy agent has been made this year. The need of this is an urgent one and in addition will save money to the Commonwealth.

X-RAY.

An X-ray machine has finally been installed at the Rutland Sanatorium. Similar machines are urgently needed at the North Reading, Lakeville and Westfield sanatoria, particularly at the latter institution, owing to the large number of children who are inmates. It is particularly in the case of children that the X-ray will give valuable evidence, which cannot be obtained by any other means. It is a well-known fact, however, that no sanatorium for tuberculosis patients can be considered to be well equipped or up to date which is not provided with adequate means for X-ray examination of its patients.

DENTISTRY.

The problem of proper dentistry for the patients at our State sanatoria is gradually being solved. At the Westfield State Sanatorium there is a resident dentist who devotes his

entire time to the care of the patients' teeth. At the Rutland State Sanatorium a local dentist gives two days a week to this work. In the appropriation for maintenance for the North Reading and Lakeville Sanatoria for the coming year the Board has asked for a sufficient sum to cover the expense of a resident dentist at each of these institutions. If this is granted, and the Board feels that the necessity for this is apparent, this important problem will be near solution.

PRISON LABOR.

After three years' experience with prison labor the Board has come to the definite conclusion that prison labor, except for the reclamation of land and other general purposes, where a large group of men can be put upon one piece of work not requiring a high degree of intelligence, is not a sound financial investment and does not accrue to the benefit of the institution. While it is perfectly true that, owing to the lack of sufficient employees, one of our institutions at least would probably have had to close its doors during the past year were it not for prison labor, the Board believes that this has been a purely temporary condition. The Board would not recommend, therefore, except in cases of necessity and under the conditions mentioned above, that prison labor be employed. The Board would express its thanks to the Prison Commission, which has furnished us with prisoners to do certain tasks which otherwise could not have been completed.

EDUCATIONAL WORK.

As in previous years the superintendents of our State sanatoria and their assistants, and the chairman and secretary of the Board, have at various times given talks, lectures, etc., on various phases of the tuberculosis problem. The Board feels, however, that there is an opportunity for a greater field of usefulness in educational lines than this. The patients at the State sanatoria offer a splendid clinic for teaching purposes, which is used comparatively little. At the North Reading Sanatorium some teaching is done to the students from Tufts Medical School. The other three institutions are practically

not used for this purpose. The Board feels that it would be an excellent plan if it could be arranged for fourth year students from recognized medical schools, or recent graduates, to be given a term of service as internes at our State sanatoria, and likewise that it would be beneficial if at each institution demonstrations or short intensive courses could be carried on for the benefit of near-by physicians or others who apply for such courses. Educational work along this line it is hoped will be developed in the future.

NORTH READING STATE SANATORIUM.

There has been an average of 178.36 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Maintenance,	\$161,638 02
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For special appropriations: —

Hospital building,	\$86,410 00
Locker and toilet-room facilities,	12,720 00
Cafeteria system,	. . . . .	5,000 00
Fire protection system,	. . . . .	24,470 00
Cottage for chief engineer and steward,	. . . . .	12,000 00
		<hr/>
		\$140,600 00

LAKEVILLE STATE SANATORIUM.

There has been an average of 251.98 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows: —

Maintenance,	\$207,599 19
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For special appropriations: —

Storehouse,	\$8,869 00
30,000-gallon tank for reserve water supply,	6,000 00
Addition to dairy barns,	. . . . .	8,000 00
Breeding and incubator building,	. . . . .	2,000 00
Incubator equipment,	. . . . .	1,100 00
1 80-kilowatt generator unit,	. . . . .	7,000 00
Duplicate pump,	. . . . .	2,000 00
		<hr/>
		\$34,969 00

WESTFIELD STATE SANATORIUM.

There has been an average of 260.9 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$197,797 00
For special appropriations:—	
Land (28.8 acres),	\$2,000 00
Land (6.3 acres),	1,890 00
Cottage house for superintendent,	12,500 00
Remodeling farmhouse and dormitory addition,	10,000 00
Remodeling barn,	5,700 00
New 75-kilowatt engine and generator,	6,500 00
Poultry houses,	3,000 00
	<hr/>
	\$41,590 00

RUTLAND STATE SANATORIUM.

There has been an average of 340.23 patients this year.

The estimates for the coming year, all of which have been approved by the State Board of Charity, are as follows:—

Maintenance,	\$288,883 00
For special appropriations:—	
Employees' building,	\$67,000 00
Garage,	6,500 00
Steel lockers,	6,500 00
Entrance to sanatorium grounds,	5,000 00
	<hr/>
	\$85,000 00

Respectfully submitted,

ARTHUR K. STONE, M.D.
 CHARLES J. DOWNEY, M.D.
 GEORGE A. DUNN.
 WILLIAM C. GODFREY.
 SYLVIA B. KNOWLTON.
 DANIEL L. PRENDERGAST.
 SIMON SWIG.

NORTH READING STATE SANATORIUM.

RESIDENT OFFICERS.

CARL C. MacCORISON, M.D.,	.	.	.	.	Superintendent.
EARLE C. WILLOUGHBY, M.D.,	.	.	.	.	Assistant Superintendent and Physician.
CORNELIUS P. HARKINS,	.	.	.	.	Assistant Physician.

FLORENCE G. DEAN,	.	.	.	.	Superintendent of Nurses.
MIRA B. ROSS,	.	.	.	.	Matron.
J. ELLIS DOUCETTE,	.	.	.	.	Supervisor.
DANIEL J. SCOTT,	.	.	.	.	Chief Engineer.
EDWARD LEARY,	.	.	.	.	Head Farmer.

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives, Room 465, State House, Boston, Mass.

I have the honor of presenting to you the report of the North Reading State Sanatorium for the year ending Nov. 30, 1919.

The records show that during the year 548 patients have been treated and 354 have been admitted. There were 65,103 days of treatment in the year as against 72,412 days of treatment for the preceding year. The lowest daily census was 132 and the highest was 196. The daily average number of patients was 178.36, which is 10 per cent less than that of the preceding year.

There have been admitted during the year 13, or 3.61 per cent, incipient; 189, or 53.1 per cent, moderately advanced; 146, or 41.21 per cent, advanced; 4, or 1.13 per cent, non-tuberculous; 2, or .56 per cent, not determined. Although there was a marked decrease in the number of advanced cases admitted over that of last year, there has been a marked increase in the number of admissions showing active symptoms and needing bed care. Consequently, with our overcrowded hospital, the problem of properly caring for these patients has been very great.

There has been a daily average of 68 bed cases, — approximately 38 per cent of the daily population.

Of the patients discharged, the average duration of residence in the sanatorium was 215 days as opposed to 249 days for the preceding year; the longest residence of any person was 2,307 days, and the shortest, 1 day.

Of the 354 cases admitted, 290, or 81.92 per cent, were inside workers. Two hundred and seventy-nine cases were admitted from cities and towns having a population of 25,000 or more, as follows: Boston, 138; Cambridge, 8; Chelsea, 10; Everett, 8; Fall River, 1; Fitchburg, 1; Haverhill, 5; Lawrence, 9;

Lynn, 13; Lowell, 33; Malden, 13; Medford, 6; Newton, 1; Quincy, 1; Revere, 5; Salem, 6; Somerville, 19; Worcester, 2.

Fifty cases have been supported from private funds; 157 by cities and towns; 83 entirely by the State; and 11 private cases have either become State or town charges. There were remaining, November 30, 23 private cases, 69 city or town cases, 35 State cases, and 65 unknown cases, making a total of 192.

Of the patients discharged during the year, 105 males and 98 females had gained in weight, the total gain being 1,977 pounds; the average male gain was 5.91 pounds, and the average female gain was 13.09 pounds; 7 patients remained stationary; 59 had lost; 61 had died; and 20 were not considered.

Four patients, or 1.12 per cent, have been discharged arrested; 5, or 1.40 per cent, apparently arrested; 22, or 6.18 per cent, quiescent; 142, or 39.88 per cent, improved; 59, or 16.57 per cent, unimproved; 61, or 16.88 per cent, have died; 60, or 16.85 per cent, were not considered (duration of stay being less than one month); and 3, or .84 per cent, non-tuberculous. The short duration of residence of a large number of male patients admitted during the past year showing marked activity of the disease has contributed largely to the small number of cases discharged with the disease apparently arrested or quiescent.

The average age was 30.31 years. One hundred and eighty-nine patients were foreign born, and 93 were American born but of foreign parentage. Fifty-six patients admitted have been previously treated at this sanatorium.

The total cost of maintenance for the year ending Nov. 30, 1919, was \$137,165.36; deducting \$941.34 from miscellaneous sources leaves a net amount expended for maintenance of \$136,224.02. The net per capita cost per week is \$14.68. There has been collected from private patients \$3,875.16, and from cities and towns, \$23,629.53. Further details will be found in succeeding pages of this report.

MEDICAL REPORT.

On December 25 the second wave of the influenza epidemic made its appearance. The first case, an ex-patient employee, was isolated in our one single room in the male hospital ward.

At that time the ward was full of very sick, advanced consumptives. Two days later the disease began to spread rapidly throughout the ward and the pavilions. We had a mortality among the patients of 40 per cent. At the time of the outbreak 57 patients were at home for the holiday, and these were not allowed to return until after the epidemic had subsided. We believe this procedure was justified, inasmuch as we already lacked proper accommodations for the sick and dying patients.

LABORATORY REPORT.

The laboratory work has been under the direction of Mr. Raitaro Okuro, an ex-patient.

Eleven hundred and sixty-eight sputum examinations have been made, — of which 462 were positive and 706 negative, — also 769 urine analyses, 34 blood specimens, two pleuritic fluids, 7 genitourinary smears, 1 stomach contents and 31 throat cultures. In addition to the above, 71 samples of milk were tested for fats, specific gravity and solids.

WORK PERFORMED.

The low daily census, coupled with the low percentage of patients able to take exercise, has markedly decreased the number of hours of work performed by the patients. This decrease was so marked that it became necessary to add two extra employees to the ward service during the early part of the summer. The amount of work performed by the patients was as follows: 12,441 hours were devoted to housework; 936 hours to sewing; 1,825 hours to dining-room service; 687 hours to picking and preparing garden truck and small fruits; 40 hours to clerical work; 365 to care of animals; 625 to barbering; 1,459 to painting, repairing and odd jobs; 540 to technical laboratory work; and 790 to the care of incinerator and collecting laundry.

The following articles have been made up by the patients: 184 sheets, 689 pillow cases, 415 towels, 22 tablecloths, 28 spray curtains, 35 screen covers, 16 swathes, 6 kitchen aprons, 17 T-bandages, 5 slings, 8 coffee strainer bags, 169 dish towels, 13 kitchen towels, 2 phonograph record cabinets and 1 reading desk.

RECOMMENDATIONS.

1. The need for a new hospital building to accommodate the ever increasing number of fever cases is more urgent than ever. We are obliged to refuse admission to many bed cases, and too frequently we are compelled to treat bed cases on pavilions where there are no facilities for caring for sick patients. Our present hospital ward in the male unit, which is supposed to care for 26 patients, is tremendously overcrowded, and during the past winter we have packed as many as 37 patients into this ward. It is absolutely impossible to give patients proper care and treatment under such conditions.

I would recommend that the sum of \$86,410 be appropriated for the erection and equipment of a new hospital building to accommodate 50 patients, according to plan submitted last year. If it seems advisable to build in first-class construction according to the plans submitted in 1916, this building would cost \$104,960.

2. Complaints from patients relative to lack of proper locker and toilet-room facilities are becoming more frequent and insistent. Unquestionably their complaints are justified. It is impossible to correct the conditions in the hospital wards at present, but we can very easily add additional locker and toilet room facilities on the pavilions. We estimate the cost per unit would be \$1,200. There are ten units; therefore, I would recommend that the sum of \$12,720 be appropriated for this purpose, according to plan submitted.

3. Our new nurses' dormitory and chapel will undoubtedly be ready for occupancy about April, 1920. Just as soon as this building is completed and we can discontinue using our present dining room for religious and amusement purposes, I would recommend the installation of a cafeteria system. There will be \$5,000 required for making the necessary alterations in our present dining room and installing the necessary equipment.

4. Our present equipment for fire protection is practically worthless. The buildings east of the power plant are entirely unprotected, owing to lack of sufficient water pressure. Should a fire occur in the institution, we would have to depend princi-

pally upon hand fire extinguishers and the water in our 25,000 gallon tank with a maximum pressure of about 60 pounds. Our water supply has given us a great deal of trouble in the power plant, owing to excessive scaling in the boilers. I would recommend that the sum of \$24,470 be appropriated for the installation of a fire protective system, as per plans and specifications submitted in 1917.

5. During the past year we have employed no less than four chief engineers. Our principal difficulty in securing and keeping a capable man has been due to the fact that we have no accommodations for a man and his family. At the present time our chief engineer, a most capable man, is compelled to live at Tewksbury, and his first assistant one-quarter of a mile from the institution. I believe the chief engineer should be within easy call at all times. There is but one man on duty in the power plant from 4 P.M. until 7 the following morning. I do not believe this condition should be allowed to continue longer. Our steward, who has a family of a wife and two children, is compelled to live 2 miles from the institution. He should be within easy calling distance. At present we are paying \$20 a month house rent for the chief engineer and \$15 for the steward. I would recommend that the sum of \$12,000 be appropriated for the construction of a cottage to house the engineer and the steward, as per plan submitted.

RECOMMENDATIONS FOR FUTURE IMPROVEMENTS.

In order to put our sanatorium under the best possible working conditions, the following additions and improvements should be considered:—

1. More intensive work on the individual patient. This would include occupational therapy, X-ray, dentistry, and a closer supervision of the patients' daily life. To carry out this program, it would be necessary to increase the staff and to purchase additional equipment. Before the staff could be increased, however, it would be necessary to provide additional dining-room accommodations and one or two more sleeping rooms. This condition could be met by building a cottage for the superintendent and using his present quarters for the staff.

2. Alteration of the women's ward and pavilion A West, to provide additional locker and toilet-room facilities and single rooms for delirious and dying cases.

3. Alteration of the men's ward, to provide locker and toilet-room facilities.

4. Installation of a 75-kilowatt unit in the power plant. This addition would probably be required by 1921.

5. A cold-storage plant for meats, eggs and fruits, and an addition to the present root cellar to provide for the storage of apples.

6. A small greenhouse.

7. A sprinkler system in the administration building.

8. Improved drainage of grounds.

IMPROVEMENTS.

A 100-foot brick chimney, with incinerator at its base, was built at a cost of \$5,000. A new piggery to accommodate brood sows has been built and improvements made about the old piggery. The work on the new nurses' dormitory and chapel, for which an appropriation was made in July, 1919, has been started, and the building will probably be ready for occupancy about April, 1920. Extensive repairs have been made in the boiler and engine room, additional steam pipe covered, and a new Venturi meter, draft gauge and indicator installed.

PRISON CAMP.

The prison camp has been maintained with great difficulty during the year. I cannot overestimate the assistance this department has been to us during the labor shortage, which has been more acute than during the year 1918. The men have worked in nearly every department of the institution, and without their assistance I believe we would have been compelled, temporarily at least, to close up a portion of the institution.

FARM.

Although we decreased by several acres the amount of ground under cultivation, our farm, on the whole, has been more productive, and has yielded a larger profit than in previous years.

MEDICAL STAFF.

The vacancy on our staff which existed the first of the year was not filled until Dec. 29, 1919, when Dr. Ernest D. Pillsbury, late of the United States Army Medical Corps, came to our assistance during the influenza epidemic. He resigned in May to enter the United States Public Health Service. Dr. Pillsbury's services were characterized by faithfulness, and he enjoyed the confidence and esteem of the patients and employees. I regret that the Doctor could not have remained with us. Dr. George A. Hooper accepted a temporary appointment in June, and left in August to accept an appointment as interne in the Boston City Hospital. Dr. C. P. Harkins, late of the United States Army Medical Corps, was appointed to fill the vacancy in August.

ACKNOWLEDGMENTS.

We have been fortunate in retaining the services of our faithful chaplains throughout the year,—Father Whalen, Father Drapeau, the Rev. Frederick W. Walsh and Rabbi Bloom.

We wish to express our thanks to the American Feature Film Corporation and to the Metro Exchange for the pleasing picture shows furnished for our patients during the year.

Our patients appreciate very much the gifts of magazines, books and flowers received from different individuals, and the box of knit wool sweaters, caps and socks received from the Winchester Needlework Guild. To Dr. Arthur K. Stone we wish to convey our thanks for the laboratory apparatus so generously furnished this department.

I wish to thank all officers and employees for their faithfulness in the work this past year, during which time we have experienced many trying circumstances because of the difficulty in keeping all positions filled.

To the trustees, who have given me valuable advice and encouragement in meeting the many perplexing problems of a most trying year, I wish to express my gratitude.

Respectfully submitted,

CARL C. MACCORISON, M.D.,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1919:—

CASH ACCOUNT.

Balance Dec. 1, 1918,	\$760 65
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Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$3,875 16
Cities and towns,	23,629 33
	\$27,504 49

Sales:—

Travel, transportation and office expenses,	\$13 50
Food,	100 34
Clothing and materials,	48 60
Furnishings and household supplies,	23 86
Medical and general care,	26 97
Heat, light and power,	12 49

Farm and stable:—

Pigs and hogs,	\$228 85
Grease,	226 48
Ice,	4 20
Vegetables,	56 32
Sundries,	175 78
	691 63

Repairs, ordinary,	23 95
	941 34

Miscellaneous receipts:—

Interest on bank balances,	\$146 65
Sundries,	94 34
	240 99

28,686 82

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1918,	\$7,978 65
Advance money (amount on hand November 30),	7,000 00
Approved schedules of 1919,	119,288 26
	134,266 91

Special appropriations,	22,318 91
	22,318 91

Total,	\$186,033 29
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Payments.

To treasury of Commonwealth, institution receipts,		\$28,686 82
Maintenance appropriations: —		
Balance November schedule, 1918,	\$8,739 30	
Eleven months' schedules, 1919,	119,288 26	
November advances,	5,198 96	
	<hr/>	133,226 52
Special appropriations: —		
Approved schedules,		22,318 91
Balance Nov. 30, 1919: —		
In bank,	\$1,665 42	
In office,	135 62	
	<hr/>	1,801 04
Total,		\$186,033 29

MAINTENANCE.

Appropriation, current year,	\$139,200 00
Expenses (as analyzed below),	137,165 36
	<hr/>
Balance reverting to treasury of Commonwealth,	\$2,034 64

Analysis of Expenses.

Personal services: —	
Carl C. MacCorison, superintendent,	\$3,150 00
Medical,	2,958 08
Administration,	5,070 60
Kitchen and dining-room service,	5,684 90
Domestic,	7,657 27
Ward service (male),	2,806 89
Ward service (female),	8,080 18
Engineering department,	6,811 50
Repairs,	2,362 68
Farm,	3,181 92
Stable, garage and grounds,	1,775 64
	<hr/>
	\$49,539 66
Religious instruction: —	
Catholic,	\$600 00
Hebrew,	362 51
Protestant,	500 00
	<hr/>
	1,462 51
Travel, transportation and office expenses: —	
Advertising,	\$21 42
Automobiles,	936 03
Automobile repairs and supplies,	1,306 92
Postage,	238 00
Printing and binding,	217 83
Stationery and office supplies,	530 03
Telephone and telegraph,	304 22
Travel,	351 45
Freight,	22 72
	<hr/>
	3,928 62
Amount carried forward,	\$54,930 79

Amount brought forward, \$54,930 79

Food:—

Flour,	\$2,040 30
Cereals, rice, meal, etc.,	816 18
Bread, crackers, etc.,	78 54
Peas and beans (canned and dried),	432 84
Macaroni and spaghetti,	26 20
Potatoes,	1,128 25
Meat,	13,852 29
Fish (fresh, cured and canned),	1,703 79
Butter,	4,007 10
Butterine, etc.,	427 35
Cheese,	77 96
Coffee,	557 46
Tea,	151 20
Cocoa,	53 62
Milk (whole),	12,400 82
Milk (condensed, evaporated, etc.),	40 00
Eggs (fresh),	4,481 15
Sugar (cane),	1,475 91
Fruit (fresh),	342 59
Fruit (dried and preserved),	1,742 21
Lard and substitutes,	427 41
Molasses and syrups,	44 83
Vegetables (fresh),	418 58
Vegetables (canned and dried),	621 54
Seasonings and condiments,	329 06
Yeast, baking powder, etc.,	314 31
Sundry foods,	235 03
Freight,	594 31

48,820 83

Clothing and materials:—

Boots, shoes and rubbers,	\$283 72
Clothing (outer),	478 29
Clothing (under),	86 05
Hats and caps,	32 65
Socks and small wares,	51 02
Freight,	9 93

941 66

Furnishings and household supplies:—

Beds, bedding, etc.,	\$1,097 82
Carpets, rugs, etc.,	22 23
Crockery, glassware, cutlery, etc.,	404 17
Dry goods and small wares,	138 15
Electric lamps,	202 63
Fire hose and extinguishers,	45 00
Furniture, upholstery, etc.,	137 88
Kitchen and household wares,	1,376 36
Laundry supplies and materials,	556 23
Lavatory supplies and disinfectants,	363 87
Table linen, paper napkins, towels, etc.,	377 18
Freight,	63 29

5,594 81

Amount carried forward, \$110,288 09

Amount brought forward, \$110,288 09

Medical and general care: —

Books, periodicals, etc.,	\$45 78
Entertainments, games, etc.,	267 89
Funeral expenses,	90 00
Ice and refrigeration,	64 79
Laboratory supplies and apparatus,	56 19
Medicines (supplies and apparatus),	1,125 61
Medical attendance (extra),	41 45
Sputum cups, etc.,	377 22
Tobacco, pipes, matches,	143 72
Sundries,	77 79
Freight,	78 85

2,369 29

Heat, light and power: —

Coal (bituminous),	\$3,312 21
Freight and cartage,	4,483 87
Coal (anthracite),	262 32
Freight and cartage,	167 87
Gas,	44 20
Oil,	217 96
Operating supplies for boilers and engines,	312 56
Sundries,	45 00
Freight,	11 49

8,857 48

Farm and stable: —

Bedding materials,	\$40 94
Blacksmithing and supplies,	89 78
Carriages, wagons and repairs,	19 58
Dairy equipment and supplies,	5 24
Fencing materials,	32 71
Fertilizers,	314 07
Grain, etc.,	3,149 05
Hay,	588 13
Harnesses and repairs,	187 31
Other live stock,	259 50
Labor (not on pay roll),	2,599 75
Rent,	157 50
Spraying materials,	3 46
Stable and barn supplies,	17 55
Tools, implements, machines, etc.,	151 28
Trees, vines, seeds, etc.,	191 78
Veterinary services, supplies, etc.,	120 47
Sundries,	13 07
Freight,	149 96

8,091 13

Grounds: —

Fertilizers,	\$81 33
Labor (not on pay roll),	15 11
Rent,	227 28
Road work and materials,	97 37
Tools, implements, machines, etc.,	54 97
Trees, vines, shrubs, seeds, etc.,	21 77
Freight,	21 64

519 47

Amount carried forward, \$130,125 46

<i>Amount brought forward,</i>		\$130,125 46
Repairs, ordinary: —		
Brick,	\$35 00	
Cement, lime, crushed stone, etc.,	41 54	
Electrical work and supplies,	252 71	
Hardware, iron, steel, etc.,	503 81	
Labor (not on pay roll),	11 40	
Lumber, etc. (including finished products),	320 79	
Paint, oil, glass, etc.,	548 25	
Plumbing and supplies,	242 33	
Roofing and materials,	28 00	
Steam fittings and supplies,	338 98	
Tents, awnings, etc.,	53 44	
Tools, machines, etc.,	140 08	
Boilers, repairs,	160 38	
Dynamos, repairs,	109 80	
Engines, repairs,	163 86	
Sundries,	233 00	
Freight,	97 82	
		3,281 19
Repairs and renewals: —		
Double blower for boiler,	\$261 00	
Boiler meter,	45 76	
Feed water meter,	544 57	
Reshingling pavilions,	216 52	
Relaying veranda floors,	230 71	
House for brood sows,	1,060 32	
Weather strips,	500 00	
Repairing roofs,	167 90	
Couch telephone system,	731 93	
		3,758 71
Total expenses for maintenance,		\$137,165 36
SPECIAL APPROPRIATIONS.		
Balance Dec. 1, 1918,		\$96 54
Appropriations for fiscal year,		53,150 00
Total,		\$53,246 54
Expended during the year (see statement annexed),	\$22,312 44	
Reverting to treasury of Commonwealth,	6 47	
		22,318 91
Balance Nov. 30, 1919,		\$30,927 63

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,801 04	
November cash vouchers (paid from advance money),		
on account of maintenance,	5,198 96	
Due from treasury of Commonwealth from available appropriation, account of November, 1919, schedule,	10,877 10	
		\$17,877 10

Liabilities.

Schedule of November bills,	\$17,877 10
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PER CAPITA.

During the year the average number of inmates has been 178.36.

Total cost for maintenance, \$137,165.36.

Equal to a weekly per capita cost of \$14.789.

Receipt from sales, \$941.34.

Equal to a weekly per capita of \$0.1014.

All other institution receipts, \$27,745.48.

Equal to a weekly per capita of \$2.991.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Ex-pended during Fiscal Year.	Ex-pended to Date.	Balance at End of Year.
Wells and suction lines, .	Resolves of 1918, chapter 55.	\$1,650 00	\$94 15	\$1,647 61	\$2 39 ¹
Construction of brick chimney.	Special Acts of 1919, chapter 153.	5,000 00	4,995 92	4,995 92	4 08 ¹
Nurses' hall and chapel, .	Special Acts of 1919, chapter 211.	48,150 00	17,222 37	17,222 37	30,927 63
		\$54,800 00	\$22,312 44	\$23,865 90	\$30,927 63

¹ Reverting to treasury of the Commonwealth.

Respectfully submitted,

CARL C. MACCORISON, M.D.,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,

Auditor.

VALUATION.

Real estate,	\$165,967 44
Personal estate,	66,052 30
	<hr/>
	\$232,019 74

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number of inmates present at beginning of fiscal year, .	109	85	194
Number received during the year,	208	146	354
Number discharged or died during year,	205	151	356
Number at end of the fiscal year,	112	80	192
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	102.40	75.96	178.36
Average number of officers and employees during the year, .	40.77	30.80	71.57

Expenditures.

1. Salaries and wages,	\$49,539 66
2. Clothing,	941 66
3. Subsistence,	57,678 31
4. Ordinary repairs and improvements,	7,039 90
5. Office, domestic and outdoor expenses,	21,965 83
Total,	<u>\$137,165 36</u>
Extraordinary expenses,	22,312 44
Grand total,	<u>\$159,477 80</u>

Summary of Current Expenses.

Total expenditure,	\$159,477 80
Deducting extraordinary expenses,	22,312 44
	<u>\$137,165 36</u>
Deducting amount of sales,	941 34
Total,	<u>\$136,224 02</u>

Dividing this amount by the daily average number of patients — 178.36 — gives a cost for the year of \$763.76, equivalent to an average weekly net cost of \$14.68.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Patients in the sanatorium Dec. 1, 1918,	109	85	194
Number of patients admitted Dec. 1, 1918, to Nov. 30, 1919, inclusive.	208	146	354
Number discharged Dec. 1, 1918, to Nov. 30, 1919, inclusive,	205	151	356
Number of deaths (included in preceding item),	44	17	61
Number remaining in the sanatorium Nov. 30, 1919, . .	112	80	192
Daily average number of patients,	102.40	75.96	178.36

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	105	77	182
Single,	96	59	155
Widowed,	6	9	15
Divorced,	1	1	2
Totals,	208	146	354

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	13	19	32
20 to 30 years,	76	60	136
30 to 40 years,	57	45	102
40 to 50 years,	50	17	67
Over 50 years,	12	5	17
Totals,	208	146	354

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	73	19	22	67	21	12	140	40	34
Other New England States, . . .	11	12	7	7	10	12	18	22	19
Other States,	4	4	4	3	4	3	7	8	7
Total native,	88	35	33	77	35	27	165	70	60
Other countries (17),	120	171	170	68	111	117	189	282	287
Unknown,	—	2	5	—	—	2	—	2	7
Grand totals,	208	208	208	146	146	146	354	354	354

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	138
Chelsea,	10
Lynn,	13
Lowell,	33
Malden,	13
Somerville,	19
Other cities and towns,	128
Total,	354

TABLE 6. — *Occupation of Cases admitted.*

Seventy-six occupations represented. Details on file at office of the Department.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	-	13	13
Moderately advanced,	100	89	189
Advanced,	105	41	146
Non-tuberculous,	2	2	4
Not determined,	1	1	2
Totals,	208	146	354

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	3	1	4
Apparently arrested,	2	3	5
Quiescent,	16	6	22
Improved,	77	65	142
Unimproved,	29	30	59
Died,	44	17	61
Not considered,	32	28	60
Non-tuberculous,	2	1	3
Totals,	205	151	356

TABLE 9. — *Deaths.*

Males, 44; females, 17; total, 61. Details on file at office of the Department.

TABLE 10. — *Cause of Death.*

Details on file at office of the Department.

LAKEVILLE STATE SANATORIUM.

RESIDENT OFFICERS.

SUMNER COOLIDGE, M.D.,	.	.	.	.	<i>Superintendent.</i>
GEORGE M. SULLIVAN, M.D.,	.	.	.	.	<i>Assistant Superintendent and Physician.</i>
MINOT W. GALE, M.D.,	.	.	.	.	<i>Physician.</i>

Mrs. MARY M. COAKLEY,	.	.	.	.	<i>Steward.</i>
Mrs. HARRIET M. GASSETT,	.	.	.	.	<i>Matron.</i>
ROBERT A. KENNEDY,	.	.	.	.	<i>Chief Engineer.</i>
THOMAS FRANCIS MAHONEY,	.	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit herewith the report of the Lakeville State Sanatorium for the year ending Nov. 30, 1919.

The work accomplished by the sanatorium for 1919 has been marked by certain changes which show development in a direction directly opposite to that which it was hoped the work of the State sanatorium would take, and which make for a decreased efficiency and increased expense in maintenance. Whereas it was hoped that the passing years would show a decrease in the number of advanced cases to be cared for, it is interesting to note that from 1916 to 1919, inclusive, the daily average number of bed patients has progressively increased, as follows: 71 for 1916, 84.6 for 1917, 95.25 for 1918, and 109.43 for 1919; this, in spite of the fact that several municipal hospitals and county institutions, where it was expected that advanced cases would be cared for, have been in full operation for a considerable portion of the year.

The number admitted to the sanatorium during the year — 459 — is greater than the total number of admissions during the preceding year, but the daily average number of patients in the sanatorium diminished from 260.35 to 251.98 because the average stay of patients discharged was only 190 days as compared with 225.14 for 1918.

The total number of cases cared for was 704 as against 676 for 1918, but the total days of treatment for the year just finished number 91,976, or 3,052 less than 1918.

The classification of cases admitted has not changed appreciably, as shown by the admission of only 5 incipient cases. Fifty-two and one-fourth per cent of the admissions were moderately advanced, $44\frac{3}{4}$ per cent were advanced, and 5 cases were not classified.

The classification of cases discharged — 2.75 per cent apparently arrested, 3.18 per cent quiescent — is less encouraging than the percentages of the preceding year, 3.71 apparently arrested and 5.33 quiescent. Of the patients discharged during the year, the longest residence was 1,839 days, and the shortest, 1 day.

The financial status of the 704 cases cared for shows an undesirable change in the proportion of cases who take treatment independent of financial assistance. There were but 50 private cases as against 62 for the preceding year; 387 town cases as compared with 336; 225 State cases as against 180 for the preceding year; and the settlements of 31 were undetermined. In all 23 ex-service men were cared for, of whom 11 were acknowledged charges of the Bureau of War Risk Insurance, while the exact status of the remainder has not been determined.

Two hundred and eight patients made an average gain in weight of 13.13 pounds. The greatest gain for a man was $44\frac{1}{4}$ pounds, and for a woman, $52\frac{3}{4}$ pounds.

MEDICAL REPORT.

The most striking results obtained during the year, as also in 1918, have been seen in the cases treated by heliotherapy. It is now two years since a few cases of surgical tuberculosis, for which operative treatment could not easily be obtained, were exposed to the direct rays of the sun with results that were most surprising. This led to the application of heliotherapy to other cases with like results; and at the present time it is our firm conviction that the majority of tubercular complications found in our pulmonary cases can be entirely cleared up by heliotherapy if the pulmonary condition of the patient is not so far advanced as not to be amenable to treatment. Some of the cases which have appeared hopeless, but which have entirely cleared up with the restoration of function, are advanced tuberculosis of carpus, mediastinal abscess, hip disease, advanced cervical adenitis, tubercular lesions of the elbow, spine, femur, tibia and ankle, all with one or more chronic sinuses, also two empyema cases. Thirty-five pulmonary cases without complications have been treated by heliotherapy, of

which 31 have shown marked improvement, while 4 which were hemorrhage cases did not improve. As a matter of routine all tubercular laryngitis cases are exposed to the sun's rays, application being made to the outside of the throat, and it is believed that recovery in many cases has been hastened thereby. In all but the severest weather the direct sunlight is applied daily to the site of the complicating lesion, the time of exposure being governed by the stage of treatment and the location of the lesion. It has been found that the same results were obtained more promptly, especially in cold weather, by concentrating the sun's rays upon the area to be treated by means of a 12-inch double convex lens.

The opinion formerly held by many that a complicating tubercular lesion should be removed, if possible, by surgical interference, has been supplanted at the Lakeville State Sanatorium by the conviction that few of these complications will fail to respond to heliotherapy if the pulmonary condition has not reached the hopeless stage.

The complication most frequently met with is represented by 85 cases of tubercular laryngitis in various stages of development. Next in number come 18 cases of ischiorectal abscess of varying degrees of severity. Six cases of endocarditis, 6 cases of cervical adenitis, 6 cases of nephritis and 5 cases of asthma have been seen in addition to many other complications that were less numerous.

Twenty-five hundred and sixty-seven examinations of sputum were made, of which 980 were positive and 1,587 negative; of 575 urine analyses, 6 showed marked evidence of nephritis.

The tuberculosis clinic at the office of the Middleborough board of health has been continued through the year by sanatorium physicians. Fifteen cases have been examined. Of these, 6 were found to be positive and 2 suspicious.

WORK PERFORMED.

As was the case in 1918 the physical condition of the patients cared for was such that few were able to accomplish the amount of helpful work which is usually expected of convalescent patients. The same sort of help was given by the patients in

ward work and dining-room service and in preparing vegetables for cooking and for canning. The work hours of patients during the year aggregated 21,004 hours.

RELIGIOUS SERVICES.

The regular attendance of the Protestant, Catholic and Jewish chaplains has been faithful and helpful throughout the year, their work having been supplemented by activities of the Holy Name Society on the men's ward and of the Christian Endeavor Society on the women's ward.

IMPROVEMENTS.

As no special appropriations were available for improvements during the year, the only new work undertaken consisted of minor improvements at the dairy, piggery, poultry plant and in the administration building.

FARM.

The year just past has shown rather favorable results on the farm. The same policy has been pursued as in previous years of producing on the farm as much as possible of the food needed for the institution, with the result that it has not been necessary to purchase milk, poultry, table eggs, pork products, canned vegetables, canned fruit, jellies or fresh vegetables.

RECOMMENDATIONS.

A general storehouse, to cost \$8,869, a 30,000-gallon tank for additional water supply, to cost \$6,000, an addition to the dairy barn for the storage of hay and to provide quarters for young stock, at an estimated expense of \$8,000, and an addition to the poultry plant to provide facilities and equipment for breeding and hatching, estimated to cost \$3,100, are again requested as these improvements seem to be of great importance to the efficient and economical conduct of the business of the sanatorium.

In addition to the above, an 80-kilowatt generator unit is requested for the power plant, as the demands of the institution at certain times have already reached the limit of the present

generating equipment. The estimated cost of this additional unit is \$7,000.

As a measure of safety for the institution, a duplicate pump at the pumping station is requested, at an estimated cost of \$2,000.

ACKNOWLEDGMENTS.

It is a pleasure to acknowledge the helpful services and hearty co-operation of the Catholic, Protestant and Jewish clergymen who have waited upon our patients during the year. It is no less a pleasure to mention the high-minded loyalty and support of the medical staff and of all subordinate employees during a year when it seemed increasingly difficult to obtain willing helpers.

In behalf of the patients I wish to acknowledge their appreciation of gifts of flowers, books and entertainments which have been contributed from time to time.

Respectfully submitted,

SUMNER COOLIDGE,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1919:—

CASH ACCOUNT.			
Balance Dec. 1, 1918,	.	.	\$735 33
<i>Receipts.</i>			
<i>Institution Receipts.</i>			
Board of inmates:—			
Private,	.	\$2,709 39	
Cities and towns,	.	27,427 50	
Reimbursements, charitable,	.	153 15	
		<hr/>	\$30,290 04
Sales:—			
Food,	.	\$275 51	
Clothing and materials,	.	9 63	
Furnishings and household supplies,	.	44 97	
Medical and general care,	.	15 50	
Farm and stable:—			
Cows and calves,	.	\$80 00	
Pigs and hogs,	.	236 00	
Vegetables,	.	23 20	
Sundries,	.	359 61	
		<hr/>	698 81
			<hr/>
			1,044 42
Miscellaneous receipts:—			
Interest on bank balances,	.	\$191 78	
Sundries,	.	25 18	
		<hr/>	216 96
			<hr/>
			31,551 42
Unclaimed wages, account of 1918 pay rolls,	.	.	17 12
Refund on coal, 1918 account,	.	.	125 43

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—			
Balance of 1918,	.	\$13,585 06	
Advance money (amount on hand November 30),	.	5,000 00	
Approved schedules of 1919,	.	\$163,062 12	
Less returned,	.	65 43	
		<hr/>	162,996 69
			<hr/>
			181,581 75
Special appropriations,	.	.	20,562 32
			<hr/>
Total,	.	.	\$234,573 37

Payments.

To treasury of Commonwealth institution receipts,		\$31,528 02
Refunds, account of previous years (\$17.12 + \$125.43),		142 55
Maintenance appropriations: —		
Balance November schedule, 1918,	\$15,024 22	
Eleven months' schedules, 1919,	162,996 69	
November advances,	4,706 16	
	<hr/>	182,727 07
Special appropriations: —		
Approved schedules,	\$20,562 32	
Less advances, last year's report,	703 83	
	<hr/>	\$19,858 49
November advances,	2 43	
	<hr/>	19,860 92
Balance Nov. 30, 1919: —		
In office,		314 81
		<hr/>
Total,		\$234,573 37

MAINTENANCE.

Appropriation, current year,	\$177,660 00
Balance from previous year brought forward,	7 80
	<hr/>
Total,	\$177,667 80
Expenses (as analyzed below),	175,621 79
	<hr/>
Balance reverting to treasury of Commonwealth,	\$2,046 01

Analysis of Expenses.

Personal services: —	
Sumner Coolidge, M.D., superintendent,	\$3,300 00
Medical,	2,820 00
Administration,	4,367 43
Kitchen and dining-room service,	4,712 78
Domestic,	13,989 21
Ward service (male),	5,374 28
Ward service (female),	4,337 66
Engineering department,	6,763 80
Repairs,	5,212 52
Farm,	21,585 71
Stable, garage and grounds,	1,720 23
	<hr/>
	\$74,183 62
Religious instruction: —	
Catholic,	\$600 00
Hebrew,	134 40
Protestant,	450 00
Other,	5 20
	<hr/>
	1,189 60
Travel, transportation and office expenses: —	
Automobile repairs and supplies,	\$3,199 10
Postage,	191 70
Printing and binding,	210 63
Stationery and office supplies,	390 18
	<hr/>
Amounts carried forward,	\$3,991 61
	<hr/>
	\$79,364 83

<i>Amounts brought forward,</i>	\$3,991 61	\$79,364 83
Travel, transportation and office expenses — <i>Con.</i>		
Telephone and telegraph,	361 96	
Travel,	748 76	
Sundries,	08	
Freight,	22 04	
		5,124 45
Food: —		
Flour,	\$1,946 80	
Cereals, rice, meal, etc.,	911 34	
Bread, crackers, etc.,	86 68	
Peas and beans (canned and dried),	141 71	
Macaroni and spaghetti,	69 80	
Potatoes,	208 30	
Meat,	10,218 14	
Fish (fresh, cured and canned),	2,194 19	
Butter,	4,777 65	
Cheese,	57 25	
Coffee,	320 12	
Tea,	181 39	
Cocoa,	51 08	
Eggs (fresh),	1,392 39	
Sugar (cane),	2,100 29	
Fruit (fresh),	125 43	
Fruit (dried and preserved),	87 50	
Lard and substitutes,	336 00	
Molasses and syrups,	39 59	
Vegetables (fresh),	3 00	
Vegetables (canned and dried),	18 54	
Seasonings and condiments,	302 09	
Yeast, baking powder, etc.,	172 48	
Sundry foods,	257 28	
Freight,	565 60	
		26,564 94
Clothing and materials: —		
Boots, shoes and rubbers,	\$30 00	
Clothing (outer),	103 12	
Clothing (under),	48 50	
Hats and caps,	7 58	
Sundries,	98	
		190 18
Furnishings and household supplies: —		
Beds, bedding, etc.,	\$1,709 66	
Carpets, rugs, etc.,	42 03	
Crockery, glassware, cutlery, etc.,	704 54	
Dry goods and small wares,	259 99	
Electric lamps,	71 26	
Fire hose and extinguishers,	164 10	
Furniture, upholstery, etc.,	316 00	
Kitchen and household wares,	1,961 43	
Laundry supplies and materials,	711 47	
Lavatory supplies and disinfectants,	318 34	
<i>Amounts carried forward,</i>	\$6,258 82	\$113,511 61

Amounts brought forward, \$6,258 82 \$113,511 61

Furnishings and household supplies — *Con.*

Table linen, paper napkins, towels, etc.,	278 08	
Sundries,	261 65	
Freight,	140 73	
	<hr/>	6,939 28

Medical and general care: —

Books, periodicals, etc.,	\$23 92	
Entertainments, games, etc.,	127 26	
Funeral expenses,	227 00	
Ice and refrigeration,	40 80	
Laboratory supplies and apparatus,	124 46	
Medicines (supplies and apparatus),	2,028 29	
Medical attendance (extra),	11 75	
Sputum cups, etc.,	864 53	
Tobacco, pipes, matches,	2 20	
Sundries,	1 50	
Freight,	43 18	
	<hr/>	3,494 89

Heat, light and power: —

Coal (bituminous),	\$7,117 86	
Freight and cartage,	5,469 24	
Oil,	296 98	
Operating supplies for boilers and engines,	807 69	
Sundries,	182 36	
Freight,	11 33	
	<hr/>	13,885 46

Farm and stable: —

Bedding materials,	\$373 81	
Blacksmithing and supplies,	360 25	
Carriages, wagons and repairs,	11 61	
Dairy equipment and supplies,	1,310 36	
Fencing materials,	30 87	
Fertilizers,	4,679 19	
Grain, etc.,	13,831 57	
Hay,	2,822 30	
Harnesses and repairs,	99 29	
Horses,	325 00	
Cows,	918 00	
Other live stock,	1,469 61	
Labor (not on pay roll),	2,091 24	
Rent,	275 00	
Road work and materials,	338 85	
Spraying materials,	269 41	
Stable and barn supplies,	196 32	
Tools, implements, machines, etc.,	2,433 01	
Trees, vines, seeds, etc.,	647 37	
Veterinary services, supplies, etc.,	216 93	
Sundries,	1,149 67	
Freight,	1,229 06	
	<hr/>	35,078 72

Amount carried forward, \$166,651 14

Amount brought forward, \$166,651 14

Grounds:—

Fertilizers,	\$27 45	
Road work and materials,	492 92	
Tools, implements, machines, etc.,	47 47	
Trees, vines, shrubs, seeds, etc.,	141 15	
Sundries,	14 57	
Freight,	75 32	
		798 88

Repairs, ordinary:—

Cement, lime, crushed stone, etc.,	\$184 49	
Electrical work and supplies,	366 39	
Hardware, iron, steel, etc.,	973 28	
Labor (not on pay roll),	513 94	
Lumber, etc. (including finished products),	1,799 84	
Paint, oil, glass, etc.,	1,039 77	
Plumbing and supplies,	672 01	
Roofing and materials,	57 00	
Steam fittings and supplies,	150 70	
Tents, awnings, etc.,	28 11	
Tools, machines, etc.,	290 51	
Boilers, repairs,	206 56	
Dynamos, repairs,	17 42	
Engines, repairs,	54 50	
Sundries,	99 08	
Freight,	118 40	
		6,572 00

Repairs and renewals:—

Reset old boiler,	\$1,200 00	
Equipment, dressing-room and bath in pavilion,	399 77	
		1,599 77

Total expenses for maintenance, \$175,621 79

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1918,	\$20,646 91	
Appropriations for fiscal year,	2,500 00	

Total, \$23,146 91

Expended during the year (see statement below),	\$20,644 88	
Reverting to treasury of Commonwealth,	2 03	
		20,646 91

Balance Nov. 30, 1919, \$2,500 00

OBJECT.	Act or Resolve.	Whole Amount.	Ex- pended during Fiscal Year.	Ex- pended to Date.	Balance at end of Year.
Addition to power plant and laundry.	Resolves of 1918, chapter 55.	\$36,500 00	\$18,866 67	\$36,499 70	\$0 30 ¹
Addition for 6 female patients.	Resolves of 1918, chapter 55.	2,000 00	1,153 14	1,998 85	1 15 ¹
Addition for 20 ex-patients, .	Resolves of 1918, chapter 55.	3,600 00	198 15	3,599 61	39 ¹
Addition for 10 employees, .	Resolves of 1918, chapter 55.	2,500 00	62 40	2,499 81	19 ¹
Purchase of certain tract of land with buildings thereon.	Special Acts of 1919, chapter 153.	2,500 00	-	-	2,500 00
Transfer from ordinary expenses for side track and trestle.	- -	364 52	364 52	364 52	-
		\$47,464 52	\$20,644 88	\$44,962 49	\$2,500 00

¹ Reverting to treasury of the Commonwealth.

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$314 81	
November cash vouchers (paid from advance money):—		
On account of maintenance,	\$4,706 16	
On account of special appropriations,	2 43	
Less income due treasury,	23 40	
	<hr/>	4,685 19
Due from treasury of Commonwealth from available appropriation, account of November, 1918, schedule,	7,625 10	
	<hr/>	\$12,625 10

Liabilities.

Schedule of November bills,	\$12,625 10
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PER CAPITA.

During the year the average number of inmates has been 251.989.
Total cost for maintenance, \$175,621.79.
Equal to a weekly per capita cost of \$13.4027.
Receipt from sales, \$1,044.42.
Equal to a weekly per capita of \$0.0797.
All other institution receipts, \$30,507.
Equal to a weekly per capita of \$2.3281.

Respectfully submitted,

SUMNER COOLIDGE,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Real estate,	\$240,672 41
Personal estate,	92,041 66
	<hr/>
Total,	\$332,714 07

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number of patients present at beginning of year, . . .	162	83	245
Number received during year,	290	169	459
Number discharged or died during the year,	302	170	472
Number at end of fiscal year,	150	82	232
Daily average attendance (<i>i.e.</i> , number of inmates actually present) during the year.	166	85	251
Average number of officers and employees during the year, .	85	27	112

Expenditures.

Current expenses:—

1. Salaries and wages,	\$74,183 62	
2. Clothing,	190 18	
3. Subsistence,	26,564 94	
4. Ordinary repairs and improvements,	6,572 00	
5. Office, domestic and outdoor expenses,	68,111 05	
Total,	<hr/>	\$175,621 79

Extraordinary expenses:—

1. Addition to power plant and laundry,	\$18,866 67	
2. Pavilion for 6 female ex-patient employees,	1,153 14	
3. Pavilion for 20 patients,	198 15	
4. Pavilion for 10 male ex-patient employees,	62 40	
5. Coal trestle,	364 52	
Total,	<hr/>	20,644 88
Grand total,		<hr/> \$196,266 67

Summary of Current Expenses.

Total expenditures,	\$196,266 67
Deducting ordinary expenses,	20,644 88
	<hr/>
	\$175,621 79
Deducting amount of sales,	1,044 42
	<hr/>
Total,	\$174,577 37

Dividing this amount by the daily average number of patients — 251.989 — gives a cost for the year of \$692.797, equivalent to an average weekly net cost of \$13.323.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1918, to Nov. 30, 1919, inclusive.	290	169	459
Number of patients discharged Dec. 1, 1918, to Nov. 30, 1919, inclusive.	302	170	472
Number of deaths (included in preceding item),	83	40	123
Number remaining in sanatorium Nov. 30, 1919,	150	82	232
Daily average number of patients,	166	85	251
Daily average number of bed patients Dec. 1, 1918, to Nov. 30, 1919.	65	44	109

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	131	93	224
Single,	144	64	208
Widowed,	11	8	19
Divorced,	4	4	8
Totals,	290	169	459

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
14 to 20 years,	35	28	63
20 to 30 years,	90	69	159
30 to 40 years,	76	46	122
40 to 50 years,	53	21	74
Over 50 years,	36	5	41
Totals,	290	169	459

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States:—									
Massachusetts,	114	39	42	74	26	23	188	65	65
Other New England States,	12	15	13	6	11	5	18	26	18
Other States,	14	11	13	4	3	7	18	14	20
Total native,	140	65	68	84	40	35	224	105	103
Other countries (20),	150	219	217	85	127	129	235	346	346
Unknown,	—	6	5	—	2	5	—	8	10
Grand totals,	290	290	290	169	169	169	459	459	459

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	166
Brockton,	15
Cambridge,	11
Fall River,	36
Marlborough,	10
Middleborough,	10
New Bedford,	14
Newton,	11
Quincy,	17
Taunton,	18
Other cities and towns,	151
Total,	459

TABLE 6. — *Occupation of Cases admitted.*

Sixty-one occupations represented. Details on file at office of the Department.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient,	—	5	5
Moderately advanced,	154	86	240
Advanced,	131	74	205
Not classified,	3	2	5
Non-tuberculous,	—	—	—
Not examined,	2	2	4
Totals,	290	169	459

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	7	6	13
Quiescent,	11	4	15
Improved,	133	57	190
Unimproved,	34	35	69
Died,	83	40	123
Not considered,	34	28	62
Non-tuberculous,	—	—	—
Totals,	302	170	472

TABLE 9. — *Deaths.*

Males, 83; females, 40; total, 123. Details on file at office of the Department.

TABLE 10. — *Cause of Death.*

Details on file at office of the Department.

WESTFIELD STATE SANATORIUM.

RESIDENT OFFICERS.

HENRY D. CHADWICK, M.D.,	<i>Superintendent.</i>
ROY MORGAN, M.D.,	<i>Assistant Superintendent and Physician.</i>
JOSEPH J. COSGROVE, M.D.,	<i>Physician.</i>
JOHN McCOY,	<i>Dentist.</i>

BENJAMIN J. SANDIFORD,	<i>Chief Engineer.</i>
ROBERT J. GOLDBERG,	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the tenth annual report of the Westfield State Sanatorium for the year ending Nov. 30, 1919.

DAYS OF TREATMENT.

The daily average patient population has been 260.9. For a few weeks during the influenza epidemic no patients were admitted, and at times there has been no waiting list for boys. Notwithstanding this handicap, the total number of hospital days was 95,228, or only 402 less than the preceding year.

NUMBER TREATED AND CLASSIFICATION.

Of the 536 patients that have been under treatment, 279 were new admissions. The number in each class reduced to percentages was as follows: 31 per cent were incipient, 30 per cent moderately advanced and 39 per cent advanced. Table No. 7 will show the subdivision of each class according to symptoms, A class meaning mild, B moderate and C severe. Of the 108 with advanced disease, only 45 could be considered as having a chance of improvement, all the others being hopeless, progressive cases. Seventeen patients died within three months after admission. The daily average number of bed patients was 79, — 34 males and 45 females.

LENGTH OF RESIDENCE.

The average length of stay, considering all cases discharged, has been 370 days. The previous year it was 417 days. The number of cases with arrested disease has lessened in like proportion, namely, 44 per cent this year as against 47 per cent last year. The longer the stay the greater will be the number of patients that can be discharged with arrested disease.

INFLUENZA EPIDEMIC.

The epidemic of influenza extended over a period of five months, beginning in September, 1918, and lasting until January, 1919. The total number of patients affected was 63. The influenza apparently had no ill effect on the tuberculous lesion in 49 cases. In only 2 patients was the tuberculous disease increased in extent and activity. There were 12 deaths directly due to influenza. Of these, 11 had advanced pulmonary tuberculosis from which death would probably have resulted within a year; the other one was a second-stage case who was in good condition, improving steadily, when he was taken sick with the influenza and died after a week's illness. The effect of the epidemic on the general public is reflected in our admissions in the past year; 12 per cent of them give a history of having been well until they were taken ill with influenza.

We have been fortunate in being free from all other contagious diseases during the year.

SUPPORT OF PATIENTS.

Of the 279 patients admitted, 21 paid their own board, 168 were supported by cities and towns, 2 were State minor wards, 62 were State charges, and the status of 28 has not been determined. The receipts from private patients were \$3,819.54 and from cities and towns, \$36,891.84. The gross per capita cost of maintenance per week has been \$12.60. Deducting sales the per capita cost was \$12.45, which was 45 cents per week more than in 1918.

GAIN IN WEIGHT.

One hundred and seventy-eight gained and 95 failed to gain. The average of the 65 per cent that gained weight was 13.3 pounds. We have continued our system of rational diet, that is, three good meals a day, not serving lunches except to the children. The results are more satisfactory in every way than when in former years midday lunches were ordered and insisted upon as being very important in the treatment of tuberculosis.

DENTISTRY.

For the last two years we have had a full-time dentist on the staff. I do not feel we can give our patients proper treatment or get the best results from sanatorium routine treatment until we have discovered and eliminated as far as possible all secondary defects and sources of infection. In this work the dentist has a most important part. Dr. Paul J. McKenna resigned April 1, 1919, to go into private practice. His methods and excellent work are being continued by his successor, Dr. John M. McCoy. The following table will show the extent of his work:—

Number of patients examined,	263
Prophylaxis,	251
Amalgam fillings,	496
Cement fillings,	405
Gutta-percha fillings,	85
Temporary fillings,	108
Pulp cappings,	122
Treatments,	80
Surgical dressings and irrigations,	120
Devitalization of pulps,	24
Canal dressings,	96
Root fillings,	25
Extractions,	265
<hr/>	
Total operations and treatments,	2,340

CONDITION ON DISCHARGE.

Of the 273 patients discharged, 44 per cent were apparently arrested; 7 per cent quiescent; 12 per cent improved; 9 per cent unimproved; 18 per cent died; 9 per cent were not considered as they remained less than thirty days.

SANATORIUM SCHOOL.

The craft shop has been used by more patients than ever before and much satisfactory work has been turned out. Printing and basketry seem to be the most popular and best fitted for our class of patients. If we had more adult patients, I would recommend employing an instructor in craft work

suitable for the bed patients in the wards. We have so few adults, however, and they are getting fewer each year as the children are crowding them out more and more, it would not be advisable to go to the expense necessary to provide the equipment and material for this type of work. The average attendance in the school has been as follows: —

Grade I.,	16.779
Grade II.,	15.135
Grade III.,	15.310
Grade IV.,	10.460
Grade V.,	17.700
Grade VI.,	19.202
Grade VII.,	15.691
Grade VIII.,	8.088
Sewing,	8.000
Cooking,	14.000
Manual training,	16.070
Total average attendance,	156.435
Total enrollment,	283

IMPROVEMENTS RECOMMENDED.

Fire Protection.

During the past year we have expended the \$2,500 appropriated for additional fire protection. We now have two water tanks with a combined capacity of 50,000 gallons. A new 4-inch cast-iron pipe main connects these tanks with the pumps at the power house. Five regulation hydrants are connected to a 6-inch main from the tanks and placed at proper intervals on the grounds about the buildings. Six hundred feet of standard fire hose on suitable hose carts are available for quick use. A standpipe has been put into each of our three-story buildings, with hose connections on each floor. The only addition we now need for fire service is a 10-horse power steam engine as an auxiliary to the motor-driven pump so that both pumps could be used to increase the volume and pressure of the water.

Cottage House.

We expended \$2,700 in rebuilding an old house, which was acquired with the Pignature property. This building was in a too dilapidated condition for use and it was necessary to

rebuild from basement to roof, practically only the chimney and frame were available. We now have a very convenient and attractive seven-room cottage with steam heat and electric lights. The value of this is at least \$4,000. It is now occupied by the head farmer.

Plans for Future Development.

Requests for special appropriations have been made for the following purposes:—

1. *Lot 1.*—This consists of 28.8 acres and is owned by Andrew Pignature. It is bounded on two sides by the sanatorium property. While the most of it is woodland, there are several acres that would be valuable to us as pasture for young stock and hogs. We rented it last year for that purpose. The price is \$2,000.

2. *Lot 2.*—This consists of 6.3 acres and is owned by James Lee. It is level tillage land that has been under cultivation for several years. We need the additional acreage for field crops. This land is bounded on two sides by the sanatorium property and should be incorporated with it. At \$300 an acre the price is \$1,890.

3. *Cottage House for Superintendent.*—It is getting more and more difficult for us to get physicians to do institutional work. One reason for this is that we do not have suitable quarters for married doctors and are obliged to employ only single men for second assistants, and they, as a rule, are not contented to stay very long. There should be another apartment provided for a married physician. The superintendent's family should have a separate house in any institution. If one were built here, the apartment now occupied by the superintendent's family would be available for other members of the staff and for a nurses' dining room. The present dining room used by the staff physicians, office and nursing force is very crowded and is so situated that it cannot be enlarged. Plans have been made and the cost of construction is estimated at \$12,500.

4. *Remodeling Farmhouse and Dormitory Addition.*—Plans have been made to remodel the old farmhouse for the head farmer and add to this building a dormitory for farm help.

This addition will provide an apartment for two families on the first floor and rooms for eight men on the second story. This is an improvement very much needed. The head farmer now lives in a house which should be occupied by the chief engineer. The chief engineer now lives 4 miles from the institution as he cannot find a suitable house near by. He is therefore not available for any emergency which might arise at our plant. The cost of construction is estimated at \$10,000.

5. *Remodeling Barn.* — The large barn that was on the premises when the State purchased the property has been patched up from time to time and used for various purposes. We use one section for a garage and the balance for storage. The storage capacity is limited, however, because of the poor floors and inadequate timber supports. The barn is so high that it obstructs the view from the sanatorium buildings and in its present position is very unsightly. Plans have been made to cut off the upper story and put on a hip roof. This would improve the appearance of the barn, and by rebuilding the floors much more storage room would be available. One floor could be used as a carpenter shop. The building contains some very good root cellars. The basement, if it had a concrete floor, would be very useful as a wagon shed. In this remodeling much of the old lumber would be used. The cost of the work as planned would be \$5,700.

6. *Engine and Generator.* — We now have to use both of our 35-kilowatt engines and generators several hours of each day. If one should be in need of repairs, it would handicap the work of the institution. We need another unit of 75-kilowatt capacity, to be protected in case of a breakdown of our present machines. The cost of its installation would be \$6,500.

7. *Poultry Houses.* — We have never kept any poultry at this institution, but I think it would be of great advantage in many ways if we could produce our own eggs and poultry. Prof. J. C. Graham of the Massachusetts Agricultural College has looked the farm and institution over and recommends that we build poultry houses with a capacity for 1,000 hens. He estimates the cost of the necessary buildings would be \$3,000.

For future consideration there is the need of a fireproof garage, which should be placed near the power house. The

institution owns one touring car and two trucks. The employees own five automobiles. These are all housed in the barn which we hope to remodel this year. This building is of frame construction and we are disregarding the law in housing so many automobiles in such a structure. There is, however, no alternative until a suitable garage can be provided.

As the winters pass and my sanatorium experience lengthens I become more and more of the opinion that unheated pavilions are not suitable buildings in which to house patients in our New England climate. Conditions favorable for the comfort of the patients and freedom from dampness should be provided. To achieve this result provision for heating the sleeping wards must be made in all buildings occupied by patients. Only two of our buildings are without heat in the wards. We have to select the patients that are to be assigned to these buildings very carefully and even so some of them have to be moved to the heated wards because cold and dampness affect them unfavorably. I would recommend that each of these two buildings be lengthened out so as to increase the capacity to 50 patients each; they now hold 33. This would make the most economical unit for administration purposes. The sleeping porches could be easily enclosed with windows, the floor insulated and sufficient radiators put in to keep the building comfortably warm in cold and damp weather. I am sure we would get better results from treatment of patients in these buildings than we are able to do under present conditions.

If the sanatorium should eventually be used exclusively for children, the two wards now occupied by adults would each need a new locker room constructed at the farther end and the location of the diet kitchen should be changed. Two more schoolrooms would have to be added to our school building.

With these suggested changes the sanatorium would provide accommodations for 300 children.

Provision for the comfortable housing of all employees needed for the institution is covered by the plans already detailed in this report or covered in my maintenance estimate.

CONSULTATION WORK.

Each year we have examined many patients who have come to the sanatorium to get advice as to their condition and treatment. Most of them have been referred by physicians in the neighboring cities and towns. We have also occasionally gone outside to see patients in their homes in consultation. This work has increased very much in the past year and it is largely due to the employment of physicians and industrial nurses in the neighboring manufacturing plants. The number of examinations of out-patients has been 114; of these, 30 were re-examinations. Besides this Dr. Morgan has served in an advisory capacity to the Westfield Dispensary. This consultation work should be extended from the Westfield Sanatorium, as a center, to cover the three western counties of the State. This could be done to a considerable degree by the present medical staff; but if the calls greatly increased, another medical assistant would be necessary.

We are now somewhat handicapped, both in diagnosis and treatment, by the lack of an X-ray machine. This defect, I hope, will be remedied by the granting of an appropriation of \$2,000 for the purchase of suitable equipment. This is included in my maintenance estimate.

MISCELLANEOUS.

The following changes have taken place on our medical staff. Dr. Samuel Delano was appointed Jan. 1, 1919, to fill the vacancy left by Dr. Hubert Colton's resignation in September, but was obliged to resign on May 1, 1919, on account of ill health. The place then remained vacant until Nov. 4, 1919, when Dr. Cosgrove returned from the army to resume the position from which he resigned in December, 1917, to enter the service.

The heating and power plant has been much improved in efficiency by changes in the old installation and the addition of some new equipment.

The farm has been very productive and has furnished nearly all the summer and winter vegetables needed, also an abun-

dance of milk and pork. Some land has been cleared and the upkeep of the farm buildings and care of the fields have been better than ever before.

ACKNOWLEDGMENTS.

Services by the Catholic, Protestant and Jewish chaplains have been held each Sunday. Besides ministering to the spiritual needs of the patients and employees, frequent visits of the chaplains furnish cheer and comfort and aid in maintaining the morale of the institution.

I am very much indebted to my heads of departments and the employees under them for their faithful and efficient work during a somewhat trying year.

This is the tenth time I have had the honor and pleasure of sending my annual report to you as trustees. It is with a feeling of deep regret that I realize that this is to be the last one to go to you. It has been my good fortune to have served under you as superintendent of this institution from the time of its inception. During its planning, its construction and its maintenance these past ten years the members of the Board have been most kind with advice and encouragement. I want you to know that my appreciation is sincere. Even if the law has now separated us officially I hope your deep interest in the welfare of the institution and the patients, as well as friendship for me, will lead you to make occasional visits. You will always find a warm welcome as long as I am privileged to remain its superintendent.

Respectfully submitted,

HENRY D. CHADWICK,
Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1919:—

CASH ACCOUNT.

Balance Dec. 1, 1918,	\$2,329 25
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Receipts.

Institution Receipts.

Board of inmates:—

Private,	\$3,819 54	
Cities and towns,	36,891 84	
		\$40,711 38

Sales:—

Food,	\$52 46	
Furnishings and household supplies,	391 13	
Medical and general care,	3 55	
Heat, light and power,	116 32	
Farm and stable:—		
Cows and calves,	\$708 00	
Pigs and hogs,	381 00	
Vegetables,	36 50	
Use of teams,	23 30	
Sundries,	163 26	
	1,312 06	
		1,875 52

Miscellaneous receipts:—

Interest on bank balances,	\$141 28	
Sundries,	29 38	
		170 66
		42,757 56

Receipts from Treasury of Commonwealth.

Maintenance appropriations:—

Balance of 1918,	\$4,605 88	
Advance money (amount on hand November 30),	7,000 00	
Approved schedules of 1919,	\$158,913 25	
Less returned,	397 83	
	158,515 42	
		170,121 30

Special appropriations,	\$5,500 00	
Balance on account of 1918,	176 40	
		5,676 40

Total,		\$220,884 51
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Payments.

To treasury of Commonwealth, institution receipts,	\$42,757 56
Maintenance appropriations: —	
Balance November schedule, 1918,	\$7,111 53
Eleven months' schedules, 1919,	158,515 42
November advances,	6,801 59
	<hr/>
	172,428 54
Special appropriations: —	
Approved schedules,	5,500 00
Balance Nov. 30, 1919: —	
In bank,	\$131 24
In office,	67 17
	<hr/>
	198 41
Total,	<hr/>
	\$220,884 51

MAINTENANCE.

Appropriation, current year,	\$170,965 00
Expenses (as analyzed below),	170,962 90
	<hr/>
Balance reverting to treasury of Commonwealth,	\$2 10

Analysis of Expenses.

Personal services: —	
Henry D. Chadwick, superintendent,	\$3,300 00
Medical,	2,864 65
Administration,	2,932 15
Kitchen and dining-room service,	11,142 53
Domestic,	6,705 45
Ward service (male),	2,639 59
Ward service (female),	9,295 59
Industrial and educational department,	2,826 00
Engineering department,	8,544 32
Repairs,	3,333 23
Farm,	15,326 57
Stable, garage and grounds,	3,167 97
	<hr/>
	\$72,078 05
Religious instruction: —	
Catholic,	\$600 00
Hebrew,	249 60
Protestant,	305 00
	<hr/>
	1,154 60
Travel, transportation and office expenses: —	
Advertising,	\$5 15
Automobile repairs and supplies,	3,397 31
Postage,	304 48
Printing and binding,	34 93
Stationery and office supplies,	330 24
Telephone and telegraph,	533 77
Travel,	238 01
Sundries,	5 00
Freight,	11 44
	<hr/>
	4,860 33
Amount carried forward,	<hr/>
	\$78,092 98

Amount brought forward, \$78,092 98

Food: —

Flour,	\$2,321 26
Cereals, rice, meal, etc.,	1,040 66
Bread, crackers, etc.,	239 69
Peas and beans (canned and dried),	347 84
Macaroni and spaghetti,	64 99
Potatoes,	463 76
Meat,	11,141 13
Fish (fresh, cured and canned),	1,851 53
Butter,	3,597 19
Butterine, etc.,	279 53
Peanut butter,	14 13
Cheese,	202 21
Coffee,	510 60
Tea,	60 00
Cocoa,	52 15
Milk (whole),	22 74
Milk (condensed, evaporated, etc.),	158 68
Eggs (fresh),	5,723 05
Egg powders, etc.,	104 00
Sugar (cane),	1,838 15
Fruit (fresh),	741 18
Fruit (dried and preserved),	1,664 83
Lard and substitutes,	1,301 32
Molasses and syrups,	140 46
Vegetables (fresh),	16 51
Vegetables (canned and dried),	578 59
Seasonings and condiments,	424 13
Yeast, baking powder, etc.,	173 60
Sundry foods,	157 15
Freight,	151 80

35,382 86

Clothing and materials: —

Boots, shoes and rubbers,	\$133 37
Clothing (outer),	254 30
Clothing (under),	93 12
Dry goods for clothing,	357 88
Hats and caps,	3 50
Socks and small wares,	136 26
Freight,	3 40

981 83

Furnishings and household supplies: —

Beds, bedding, etc.,	\$959 83
Carpets, rugs, etc.,	98 55
Crockery, glassware, cutlery, etc.,	1,149 95
Dry goods and small wares,	357 46
Electric lamps,	199 04
Fire hose and extinguishers,	750 54
Furniture, upholstery, etc.,	511 43
Kitchen and household wares,	1,625 06

Amounts carried forward, \$5,651 86 \$120,109 53

<i>Amounts brought forward,</i>	\$5,651 86	\$120,109 53
Furnishings and household supplies — <i>Con.</i>		
Laundry supplies and materials,	1,255 42	
Lavatory supplies and disinfectants,	1,132 30	
Table linen, paper napkins, towels, etc.,	665 01	
Sundries,	60	
Freight,	151 99	
	<hr/>	8,857 18
Medical and general care: —		
Books, periodicals, etc.,	\$51 55	
Entertainments, games, etc.,	123 72	
Funeral expenses,	55 00	
Ice and refrigeration,	122 09	
Laboratory supplies and apparatus,	150 73	
Manual training supplies,	89 28	
Medicines (supplies and apparatus),	1,387 01	
Medical attendance (extra),	40 00	
School books and supplies,	134 13	
Sputum cups, etc.,	201 80	
Tobacco, pipes, matches,	4 78	
Sundries,	6 00	
Freight,	21 27	
	<hr/>	2,387 36
Heat, light and power: —		
Coal (bituminous),	\$6,178 38	
Freight and cartage,	6,765 04	
Coal (anthracite),	548 73	
Freight and cartage,	287 43	
Oil,	475 92	
Operating supplies for boilers and engines,	277 82	
Freight,	29 38	
	<hr/>	14,562 70
Farm and stable: —		
Bedding materials,	\$277 93	
Blacksmithing and supplies,	92 95	
Carriages, wagons and repairs,	19 07	
Dairy equipment and supplies,	97 51	
Fencing materials,	153 13	
Fertilizers,	1,032 56	
Grain, etc.,	8,011 51	
Hay,	2,996 69	
Harnesses and repairs,	116 25	
Horses,	550 00	
Cows,	300 00	
Rent,	40 00	
Spraying materials,	175 21	
Stable and barn supplies,	103 65	
Tools, implements, machines, etc.,	328 22	
Trees, vines, seeds, etc.,	264 63	
Veterinary services, supplies, etc.,	177 34	
Freight,	863 34	
	<hr/>	15,599 99
<i>Amount carried forward,</i>		\$155,864 90

Amount brought forward, \$155,864 90

Grounds: —

Fertilizers,	\$104 50
Labor (not on pay roll),	423 24
Rent,	120 00
Road work and materials,	82 75
Tools, implements, machines, etc.,	11 95
Trees, vines, shrubs, seeds, etc.,	177 58

920 02

Repairs, ordinary: —

Cement, lime, crushed stone, etc.,	\$486 06
Electrical work and supplies,	438 94
Hardware, iron, steel, etc.,	569 42
Labor (not on pay roll),	2,777 73
Lumber, etc. (including finished products),	1,185 01
Paint, oil, glass, etc.,	1,018 20
Plumbing and supplies,	1,063 20
Roofing and materials,	331 55
Steam fittings and supplies,	1,559 75
Tents, awnings, etc.,	312 48
Tools, machines, etc.,	719 72
Boilers, repairs,	185 86
Dynamos, repairs,	82 86
Engines, repairs,	316 30
Freight,	107 10

11,154 18

Repairs and renewals: —

Repairs on farmhouse,	\$2,731 30
Instruments for boiler room,	292 50

3,023 80

Total expenses for maintenance, \$170,962 90

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1918,	\$3,000 00
Appropriations for fiscal year,	2,500 00

Total, \$5,500 00

Expended during the year (see statement annexed), 5,500 00

Balance Nov. 30, 1919, —

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$198 41
November cash vouchers (paid form advance money), on account of maintenance,	6,801 59
Due from treasury of Commonwealth from available appropriation, account of November, 1919, schedule, _____	5,447 48
	\$12,447 48

Liabilities.

Schedule of November bills,	\$12,447 48
---------------------------------------	-------------

PER CAPITA.

During the year the average number of inmates has been 260.9.

Total cost for maintenance, \$170,962.90.

Equal to a weekly per capita cost of \$12.601.

Receipt from sales, \$1,875.52.

Equal to a weekly per capita of \$0.1382.

All other institution receipts, \$40,882.04.

Equal to a weekly per capita of \$3.013.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Ex-pended during Fiscal Year.	Ex-pended to Date.	Balance at End of Year.
Water tank and hydrants, .	Resolves of 1918, chapter 55. Special Acts of 1919, chapter 153.	\$3,000 00	\$3,000 00	\$3,000 00	-
Fire protection,		2,500 00	2,500 00	2,500 00	-
		\$5,500 00	\$5,500 00	\$5,500 00	-

Respectfully submitted,

HENRY D. CHADWICK,

Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,

Auditor.

VALUATION.

Land,	\$14,524 00
Buildings,	157,331 29
Miscellaneous,	49,618 21
Total,	\$221,473 50
Personal estate,	85,977 72
Total valuation,	\$307,451 22

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906: —

Population.

	Males.	Females.	Totals.
Number received during the year,	133	137	270
Number passing out of the institution during the year, .	128	145	273
Number at end of the fiscal year in the institution, . .	131	132	263
Daily average attendance (number of inmates actually present) during the year.	127.07	133.83	260.90
Average number of employees and officers during the year, .	61	43	104

Expenditures.

Current expenses: —

1. Salaries and wages,	\$72,114 12
2. Clothing,	981 83
3. Subsistence,	35,382 86
4. Ordinary repairs,	11,154 18
5. Office, domestic and outdoor expenses,	48,598 61

Total, \$168,231 60

Extraordinary expenses: —

1. Permanent improvements to existing buildings and construction,	5,231 30
--	----------

Grand total, \$173,462 90

Summary of Current Expenses.

Total expenditures,	\$173,462 90
Deducting extraordinary expenses,	5,231 30

\$170,962 90

Deducting amount of sales,	2,046 18
--------------------------------------	----------

Total, \$168,916 72

Dividing this amount by the daily average number of patients — 260.9 — gives a cost for the year of \$647.44, equivalent to an average weekly net cost of \$12.45.

STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients admitted Dec. 1, 1918, to Nov. 30, 1919, inclusive.	139	140	279
Number of patients discharged Dec. 1, 1918, to Nov. 30, 1919, inclusive.	128	145	273
Number of deaths (included in preceding item), . . .	—	—	—
Number in sanatorium Dec. 1, 1918,	120	137	257
Number remaining Nov. 30, 1919,	131	132	263

TABLE 2. — *Civil Condition of Patients admitted.*

	Males.	Females.	Totals.
Married,	21	12	33
Single,	115	124	239
Widowed,	3	4	7
Totals,	139	140	279

TABLE 3. — *Ages of Patients admitted.*

	Males.	Females.	Totals.
1 to 13 years,	61	61	122
14 to 20 years,	29	44	73
21 to 30 years,	23	19	42
31 to 40 years,	13	13	26
41 to 50 years,	12	2	14
51 to 60 years,	1	1	2
Totals,	139	140	279

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	96	19	24	88	28	23	184	47	47
Other New England States, . . .	3	5	5	8	7	8	11	12	13
Other States,	13	11	12	8	9	8	21	20	20
Total native,	112	35	41	104	44	39	216	79	80
Other countries (19),	20	77	70	28	79	83	48	156	153
Unknown,	7	27	28	8	17	18	15	44	46
Grand totals,	139	139	139	140	140	140	279	279	279

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	29
Fall River,	15
Springfield,	27
Westfield,	11
Other cities and towns,	197
Total,	279

TABLE 6. — *Occupation of Cases admitted.*

Thirty-eight occupations represented. Details on file at office of the Department.

TABLE 7. — *Condition on Admission.*

	Males.	Females.	Totals.
Incipient:—			
A,	39	33	72
B,	7	7	14
C,	—	1	1
Moderately advanced:—			
A,	29	33	62
B,	15	7	22
C,	—	—	—
Far advanced:—			
A,	20	25	45
B,	22	21	43
C,	7	13	20
Totals,	139	140	279

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Apparently arrested,	52	69	121
Quiescent,	13	7	20
Improved,	14	20	34
Unimproved,	9	17	26
Died,	28	21	49
Non-tuberculous,	—	1	1
Not considered, ¹	12	10	22
Totals,	128	145	273

¹ Under treatment less than thirty days.TABLE 9. — *Deaths.*

Males, 28; females, 21; total 49. Details on file at office of the Department.

TABLE 10. — *Cause of Death.*

Details on file at office of the Department.

RUTLAND STATE SANATORIUM.

RESIDENT OFFICERS.

LEON A. ALLEY, M.D.,	.	.	.	.	.	<i>Acting Superintendent.</i>
DAVID E. MANN, M.D.,	.	.	.	.	.	<i>Senior Physician.</i>
HALBERT C. HUBBARD, M.D.,	.	.	.	.	.	<i>Physician.</i>
MARY E. GAFFNEY, M.D.,	.	.	.	.	.	<i>Physician.</i>
WILLIAM B. DAVIDSON, M.D.,	.	.	.	.	.	<i>Physician.</i>
WILLIAM J. O'CONNOR, D.M.D.,	.	.	.	.	.	<i>Dentist.</i>

DELYA E. NARDI,	.	.	.	.	.	<i>Superintendent of Nurses.</i>
WALTER C. BROWN,	.	.	.	.	.	<i>Chief Engineer.</i>
CHARLES E. CHAPMAN,	.	.	.	.	.	<i>Farmer.</i>

REPORT OF THE SUPERINTENDENT.

To the Trustees of Hospitals for Consumptives.

I have the honor to submit the annual report of the Rutland State Sanatorium for the year ending Nov. 30, 1919. This report relates to a considerable extent to the work carried out or begun by your former superintendent, Dr. Ernest B. Emerson, who resigned Aug. 8, 1919, at which time I assumed charge as acting superintendent.

There were 291 patients in the sanatorium at the beginning of the year and 359 at its close. The largest number present at one time was 367 and the smallest was 290. The decrease in the census took place during the first month of this year following the epidemic of influenza. The daily average number of patients was 340.23.

There were 567 cases admitted during the year: 132 incipient cases, 1 less than last year; 271 moderately advanced cases, 92 more than last year; 160 advanced cases, 25 more than last year; and 4 cases unclassified. There were 499 cases discharged, including deaths. The average duration of residence was 8 months, 20 days. Of those discharged, 331 gained 3,759 pounds in weight, an average gain of 11.35 pounds per person. Including the deaths, there were 105 who lost 858 pounds, an average loss of 8.17 pounds per person. There were 59 patients not considered, the duration of treatment being less than one month. There were 24 deaths, 22 less than last year. Of the discharges, there were 23 arrested cases, 6 less than last year; 24 apparently arrested, 17 less than last year; 150 quiescent; 146 improved; and 72 unimproved. As an explanation of the falling off in the number of arrested cases your attention is called to the large increase in the number of advanced cases, there being 92 more moderately advanced cases and 25 more far advanced cases admitted in 1919 than in 1918. Classifica-

tion of patients on admission and discharge has been in accordance with the classification of the National Association for the Study and Prevention of Tuberculosis. With a closer classification of the cases before they are sent to this institution, our percentage of unfavorable advanced cases would be markedly lower. The following table shows the variation in the classification of patients on their application blanks and our classification on admission:—

	Classifica- tion on Application Blanks.	Our Classifica- tion on Admission.
Incipient,	304	132
Moderately advanced,	211	271
Far advanced,	25	160
Not classified,	27	4
Totals,	567	567

Staff meetings have been held weekly during the year for the examination and classification of the new admissions, discharges, and for the discussion of treatment and subjects pertaining to the general welfare of the patient. A new card system has been introduced as a help in following up and individualizing the cases.

FARM.

Owing to the wet weather during the fall, we suffered a heavy loss in the potato crop. We were more fortunate with a greater part of the other crops of the farm. The labor situation during the past year has been a difficult one; the prison labor, which we had depended upon to carry us through, as a result of the probationary system and prohibition, was not supplied to us to the extent we had anticipated, and the prison camp was finally closed Oct. 11, 1919. Since that time we have been obliged to get along with the few farm laborers available. This fall all the reacting cattle in our herd were disposed of under the direction of our veterinary, Dr. Warren

L. Thayer of Worcester. With a nucleus of 6 cows and by the purchase of newly tested cattle, we have been able to build up a herd of 52 head. We have raised considerable pork during the past year. The poultry department shows a profit.

IMPROVEMENTS.

The new kitchen, stock room and cold-storage plant, provided for by the special appropriation acts of 1918, chapter 55, were completed during the year, and the cafeteria service for employees and patients was introduced. The water tower to take care of the water from the cold-storage plant has just been completed.

The new X-ray machine has been set up in a room made by removing the partition which formerly separated the library from the old X-ray room. The books from the old library, with many new volumes, are now temporarily located in the hall leading to the chapel. The electric current for the X-ray machine is obtained from the Gardner Electric Light Company, who have installed the wires to the institution.

The old bakery was moved into what was the original kitchen, which has been remodeled. Linoleum has been laid through most of the main corridors. Plastering has been repaired or replaced throughout the institution. This work was much more extensive than anticipated as it was found that entire ceilings and walls had to be replaced in many instances rather than patched. There has been considerable inside and outside painting done. The old farmhouse has been plastered and painted during the past year. A new tar and gravel roof has been put on Center, also extensive repairing and painting to other roofs. Electric light wires to the farm buildings have been relocated. Extensive steam fitting and repairs have been made to the power plant. New floors have been laid, new stanchions installed in the cow barn and the entire building whitewashed or painted inside. New wood-working machinery has been added to the equipment in the carpenter shop. One of the generators in the engine room has had extensive repairs and overhauling. The filter beds have been entirely gone over and put in shape.

DENTISTRY.

September 1 Dr. William J. O'Connor of Spencer was appointed dentist to the institution, and from that date has made rapid progress in establishing and carrying on a dental clinic here. He has made an examination of the teeth of every patient in the sanatorium, and this is now being carried on as a routine examination of every admission. The recovery room in the infirmary has been equipped with an up-to-date dental outfit. The following table is a summary of the work he has accomplished in three months:—

Patients examined,	. . . . .	406
Cement fillings,	. . . . .	60
Silver fillings,	. . . . .	58
Extractions,	. . . . .	46
Prophylaxis,	. . . . .	70
Treatments,	. . . . .	105
Gold crowns,	. . . . .	15
Bridge work,	. . . . .	10
Plates,	. . . . .	7
Mouth washes,	. . . . .	24

RESIGNATIONS AND APPOINTMENTS.

Dr. Mary E. Gaffney was appointed assistant physician Feb. 1, 1919, to fill the vacancy caused by the resignation of Dr. Nishan Hampson last year. Dr. Ernest B. Emerson resigned his position as superintendent of this institution Aug. 8, 1919, to assume the superintendency of the Brockton Hospital. Nov. 10, 1919, Dr. William D. Davidson, recently discharged as lieutenant of the Medical Corps of the United States Army, was appointed fourth assistant physician. Dr. Gaffney was granted a leave of absence during the month of October because of illness, and her position was temporarily filled by Dr. Jane G. Stone.

MEDICAL.

Dr. David E. Mann and Dr. Halbert C. Hubbard have continued their faithful service and loyal support throughout the year. Our medical treatment is much the same as in past

years and we still have good results to show from the prolonged rest treatment, artificial pneumothorax treatment and heliotherapy. With the increase in our medical staff we will be able to follow up and to individualize more in the care of our patients and to carry out plans already under way for a department of occupational therapy.

RELIGIOUS SERVICES.

Religious services have been held every week as in years past by the Catholic, Protestant and Jewish chaplains. The Rev. John Winslow of Palmer, Mass., has held occasional services for patients of the Episcopalian denomination. Our Protestant chaplain, the late Rev. James F. Allen, beloved by every one, passed away at his home in Rutland March 12, 1919. His loss is keenly felt by all who knew him. The Rev. George Dodge was appointed to fill the vacancy.

RECOMMENDATIONS.

Attention was called in the 1918 report of the necessity of an employees' building. At the present time there are thirty-five male employees occupying dormitories opening from corridors which are used in common, together with toilet and bath facilities, with the patients. It is well nigh impossible to get non-tubercular help to come here and live under such conditions. Furthermore, if a patient has recovered and becomes an employee he is entitled to a room by himself. While we expect patients to spend most of the day taking treatment out of doors or in the wards, there are times, especially during the cold weather, when it is necessary for them to come in to get warm, and these dormitories should be turned over to the patients not only for additional beds but for recreation rooms. At the present time, during the winter, there is not a room available where patients may write a letter except in the bathrooms or lavatories.

For several years a garage has been much needed at this institution. At the present time we are obliged to keep five automobiles, including two trucks, in the horse barn, which is not a fireproof structure. Several other automobiles are

housed in different buildings of the sanatorium which are not fireproof, and the hazard of fire is great. The garage should be planned to care for at least eight automobiles, including trucks.

ACKNOWLEDGMENTS.

I wish to acknowledge my appreciation of the splendid co-operation and pleasant relations of the Catholic, Protestant and Jewish clergymen. Their religious ministrations have been appreciated by every one, and they have been helpful in many ways in raising the morale and good conduct in the institution.

I wish to thank the employees of the sanatorium for their hearty co-operation and assistance. To you, the trustees, I am deeply grateful for the evidence of your confidence, advice and support.

Respectfully submitted,

LEON A. ALLEN,
Acting Superintendent.

TREASURER'S REPORT.

To the Trustees of Hospitals for Consumptives.

I respectfully submit the following report of the finances of this institution for the fiscal year ending Nov. 30, 1919: —

CASH ACCOUNT.

Balance Dec. 1, 1918,	\$1,856 34
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Receipts.

Institution Receipts.

Board of inmates: —

Private,	\$5,985 42	
Cities and towns,	40,181 14	
	\$46,166 56	

Sales: —

Furnishings and household supplies, .	\$5 00	
Medical and general care,	414 00	
Farm and stable: —		
Cows and calves,	\$180 00	
Pigs and hogs,	1,133 60	
Hides,	83 45	
Vegetables,	7 20	
	1,404 25	
	1,823 25	

Miscellaneous receipts: —

Interest on bank balances,	\$436 13	
Sundries,	561 19	
	997 32	
	48,987 13	

Receipts from Treasury of Commonwealth.

Maintenance appropriations: —

Balance of November schedule, 1918,	\$9,562 95	
Advance money (amount on hand November 30), . .	10,000 00	
Approved schedules of 1919, eleven months (\$223,- 319.76 + \$1,788.68),	225,108 44	
	244,671 39	

Special appropriations,	41,011 40	
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Total,	\$336,526 26	
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Payments.

To treasury of Commonwealth, institution receipts,	\$48,987 13	
Maintenance appropriations: —		
Balance November schedule, 1918,	\$11,419 29	
Eleven months' schedules, 1919,	225,108 44	
November advances,	8,871 06	
		245,398 79
Special appropriations: —		
Approved schedules,		41,011 40
Balance Nov. 30, 1919: —		
In bank,	\$1,087 32	
In office,	41 62	
		1,128 94
Total,		\$336,526 26

MAINTENANCE.

Appropriation, current year,	\$257,888 00	
Balance from previous year brought forward,	1,796 43	
Total,	\$259,684 43	
Expenses (as analyzed below),	254,173 73	
Balance reverting to treasury of Commonwealth,	\$5,510 70	

Analysis of Expenses.

Personal services: —		
Ernest B. Emerson, M.D., superintendent,	\$2,066 65	
Leon A. Alley, M.D., acting superintendent,	618 39	
Medical,	5,145 69	
Administration,	8,393 95	
Kitchen and dining-room service,	17,219 91	
Domestic,	11,735 39	
Ward service (male),	8,052 50	
Ward service (female),	10,981 82	
Engineering department,	12,188 67	
Repairs,	3,625 26	
Farm,	7,543 50	
Stable, garage and grounds,	3,533 12	
		\$91,104 85
Religious instruction: —		
Catholic,	\$600 00	
Hebrew,	490 15	
Protestant,	580 00	
		1,670 15
Travel, transportation and office expenses: —		
Advertising,	\$5 40	
Automobile repairs and supplies,	3,508 34	
Postage,	323 00	
Printing and binding,	321 47	
Stationery and office supplies,	1,082 03	
Telephone and telegraph,	944 95	
Travel,	597 64	
Freight,	21 99	
		6,804 82
Amount carried forward,		\$99,579 82

Amount brought forward, \$99,579 82

Food:—

Flour,	\$3,913 35
Cereals, rice, meal, etc.,	1,482 49
Bread, crackers, etc.,	336 57
Peas and beans (canned and dried),	158 99
Macaroni and spaghetti,	84 87
Potatoes,	2,343 19
Meat,	31,972 15
Fish (fresh, cured and canned),	1,830 96
Butter,	6,450 18
Butterine, etc.,	92 65
Cheese,	105 65
Coffee,	1,074 23
Tea,	251 13
Cocoa,	93 06
Milk (whole),	13,225 40
Milk (condensed, evaporated, etc.),	69 30
Eggs (fresh),	6,377 38
Sugar (cane),	2,885 09
Sugar (maple, etc.),	6 34
Fruit (fresh),	1,510 28
Fruit (dried and preserved),	2,201 38
Molasses and syrups,	296 25
Vegetables (fresh),	745 27
Vegetables (canned and dried),	923 25
Seasonings and condiments,	965 62
Yeast, baking powder, etc.,	153 33
Freight,	526 82

80,075 18

Clothing and materials:—

Boots, shoes and rubbers,	\$433 78
Clothing (outer),	901 60
Clothing (under),	327 60
Hats and caps,	7 80
Socks and small wares,	72 80
Freight,	3 28

1,746 86

Furnishings and household supplies:—

Beds, bedding, etc.,	\$2,168 55
Carpets, rugs, etc.,	633 45
Crockery, glassware, cutlery, etc.,	624 08
Dry goods and small wares,	246 95
Electric lamps,	377 96
Fire hose and extinguishers,	129 84
Furniture, upholstery, etc.,	1,224 70
Kitchen and household wares,	2,082 09
Laundry supplies and materials,	398 02
Lavatory supplies and disinfectants,	1,015 73
Table linen, paper napkins, towels, etc.,	794 75
Freight,	105 40

9,801 52

Amount carried forward, \$191,203 38

Amount brought forward, \$191,203 38

Medical and general care:—

Books, periodicals, etc.,	\$93 94
Entertainments, games, etc.,	77 85
Funeral expenses,	40 00
Ice and refrigeration,	237 17
Laboratory supplies and apparatus,	332 89
Medicines (supplies and apparatus),	3,012 24
Medical attendance (extra),	25 00
Sputum cups, etc.,	825 19
Tobacco, pipes, matches,	155 09
Water,	3,409 07
Prison labor,	1,003 00
Freight,	79 15

9,290 59

Heat, light and power:—

Coal (bituminous),	\$7,250 51
Freight and cartage,	8,243 85
Charcoal,	100 00
Coal (anthracite),	963 85
Freight and cartage,	528 25
Electricity,	1,469 60
Oil,	613 10
Operating supplies for boilers and engines,	338 12
Rent of coal trestle,	6 66
Freight,	69 14

19,583 08

Farm and stable:—

Bedding materials,	\$219 17
Blacksmithing and supplies,	307 61
Carriages, wagons and repairs,	15 85
Dairy equipment and supplies,	237 73
Fencing materials,	60 63
Fertilizers,	1,164 87
Grain, etc.,	9,169 26
Hay,	898 01
Harnesses and repairs,	82 55
Horses,	600 00
Cows,	3,420 00
Other live stock,	365 00
Prison labor,	2,853 30
Spraying materials,	48 68
Stable and barn supplies,	98 57
Tools, implements, machines, etc.,	591 81
Trees, vines, seeds, etc.,	699 22
Veterinary services, supplies, etc.,	403 56
Hennery supplies,	16 00
Freight,	283 16

21,534 98

Amount carried forward, \$241,612 03

Amount brought forward, \$241,612 03

Grounds: —

Tools, implements, machines, etc.,	\$20 39	
Trees, vines, shrubs, seeds, etc.,	85 09	
Freight,	1 35	
		<hr/> 106 83

Repairs, ordinary: —

Brick,	\$390 00	
Cement, lime, crushed stone, etc.,	180 20	
Electrical work and supplies,	464 40	
Hardware, iron, steel, etc.,	394 26	
Labor (not on pay roll),	3,436 15	
Lumber, etc. (including finished products),	419 05	
Paint, oil, glass, etc.,	1,218 95	
Plumbing and supplies,	510 92	
Roofing and materials,	113 16	
Steam fittings and supplies,	651 20	
Tents, awnings, etc.,	83 30	
Tools, machines, etc.,	592 22	
Boilers, repairs,	441 37	
Dynamos, repairs,	11 19	
Engines, repairs,	1 50	
Sundries,	99	
Freight,	169 21	
		<hr/> 9,078 07

Repairs and renewals: —

Heating system, old farmhouse,	\$98 50	
X-ray equipment,	973 75	
Repairs on boilers,	2,304 55	
		<hr/> 3,376 80

Total expenses for maintenance, \$254,173 73

SPECIAL APPROPRIATIONS.

Balance Dec. 1, 1918,	\$45,423 17
Expended during the year (see statement annexed),	41,011 40
	<hr/>
Balance Nov. 30, 1919,	\$4,411 77

RESOURCES AND LIABILITIES.

Resources.

Cash on hand,	\$1,128 94	
November cash vouchers (paid from advance money), on account of maintenance,	8,871 06	
Due from treasury of Commonwealth from available appropriation, account of November, 1919, schedule,	19,065 29	
		<hr/> \$29,065 29

Liabilities.

Schedule of November bills,	\$29,065 29
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PER CAPITA.

During the year the average number of inmates has been 340.23.

Total cost for maintenance, \$254,173.73.

Equal to a weekly per capita cost of \$14.3266.

Receipt from sales, \$1,823.25.

Equal to a weekly per capita of \$0.103.

All other institution receipts, \$47,163.88.

Equal to a weekly per capita of \$2.6658.

Special Appropriations.

OBJECT.	Act or Resolve.	Whole Amount.	Ex-pended during Fiscal Year.	Ex-pended to Date.	Balance at End of Year.
Kitchen, service and store-house building.	Resolves of 1918, chapter 55.	\$55,000 00	\$41,011 40	\$50,588 23	\$4,411 77
		\$55,000 00	\$41,011 40	\$50,588 23	\$4,411 77

Respectfully submitted,

LEON A. ALLEY,
Acting Treasurer.

Examined and found correct as compared with the records in the office of the Auditor of the Commonwealth.

ALONZO B. COOK,
Auditor.

VALUATION.

Land.

Grounds (42.147 acres), \$17,945 80

Lawns and buildings, 32.147 acres.

Roads, 10 acres.

Woodland (77.71 acres), 2,683 65

Mowing (77.42 acres), 7,742 00

Tillage (55.57 acres), 5,526 25

Tillage, 39.70 acres.

Garden, 15.87 acres.

Orchard (1.64 acres), 328 00

Pasture (75.58 acres), 1,157 60

Waste and miscellaneous (34.66 acres), 1,572 90

Rough pasture, 9.96 acres.

Meadow swamp land, 18.22 acres.

Sewer beds, 5.98 acres.

New coal trestle, .50 acre.

\$36,956 20

Sewerage system, 15,508 32

\$52,464 52

Buildings.

Institution buildings, \$479,567 93

Farm, stable and grounds, 25,175 00

Miscellaneous, 29,536 25

534,279 18

\$586,743 70

Present value of all personal property as per inventory of

Dec. 1, 1919, 82,861 68

Grand total, \$669,605 38

SPECIAL REPORT.

The following special report is prepared in accordance with a resolution of the National Conference of Charities and Corrections, adopted May 15, 1906:—

Population.

	Males.	Females.	Totals.
Number received during the year,	306	261	567
Number passing out of the institution during the year, .	278	221	499
Number at end of fiscal year in the institution, . . .	193	166	359
Daily average attendance (number of inmates actually present) during the year.	192.85	147.38	340.23
Average number of employees and officers during the year, .	103.50	58.30	161.80

Expenditures.

Current expenditures:—

1. Salaries and wages,	\$91,104 85
2. Clothing,	1,722 11
3. Subsistence,	79,739 81
4. Ordinary repairs,	9,078 07
5. Office, domestic and outdoor expenses,	68,435 66

Total,	\$250,080 50
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Extraordinary expenses:—

1. Permanent improvements to existing buildings, . . .	2,304 55
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Grand total,	\$252,385 05
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STATISTICAL TABLES.

TABLE 1. — *Admissions and Discharges.*

	Males.	Females.	Totals.
Number of patients in sanatorium Dec. 1, 1918,	165	126	291
Number admitted Nov. 30, 1918, to Dec. 1, 1919,	306	261	567
Number discharged Nov. 30, 1918, to Dec. 1, 1919,	278	221	499
Number remaining in Sanatorium Nov. 30, 1919,	193	166	359
Daily average number of patients,	192.85	147.38	340.23
Died (included in number discharged),	18	6	24

TABLE 2. — *Civil Condition of Patients admitted.*

	Males. .	Females.	Totals.
Single,	141	129	270
Married,	158	122	280
Widowed,	6	10	16
Divorced,	1	—	1
Totals,	306	261	567

TABLE 3. — *Age of Patients admitted.*

	Males.	Females.	Totals.
Under 14 years,	—	—	—
14 to 20 years,	22	30	52
20 to 30 years,	129	133	262
30 to 40 years,	99	69	168
40 to 50 years,	44	25	69
Over 50 years,	12	4	16
Totals,	306	261	567

TABLE 4. — *Nativity and Parentage of Patients admitted.*

PLACES OF NATIVITY.	MALES.			FEMALES.			TOTALS.		
	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.	Patients.	Fathers.	Mothers.
United States: —									
Massachusetts,	132	51	43	135	36	39	267	87	82
Other New England States, . . .	14	11	10	17	13	13	31	24	23
Other States,	20	15	13	13	9	9	33	24	22
Total native,	166	77	66	165	58	61	331	135	127
Other countries (30),	140	224	235	96	199	197	236	423	432
Unknown,	—	5	5	—	4	3	—	9	8
Grand totals,	306	306	306	261	261	261	567	567	567

TABLE 5. — *Residence of Patients admitted.*

PLACE.	Number.
Boston,	253
Worcester,	28
Somerville,	15
Rutland,	15
Springfield,	14
Cambridge,	13
Chelsea,	13
Malden,	13
Lynn,	12
Fall River,	11
Other cities and towns (73),	180
Total,	567

TABLE 6. — *Occupation of Cases admitted.*

One hundred and eight occupations represented. Details on file at office of the Department.

TABLE 7. — *Stage of Disease at Admission.*

	Males.	Females.	Totals.	Per Cent.
Incipient,	59	73	132	23.28
Moderately advanced,	159	112	271	47.79
Far advanced,	86	74	160	28.21
Unclassified,	2	2	4	.35
Totals,	306	261	567	-

TABLE 8. — *Condition on Discharge.*

	Males.	Females.	Totals.
Arrested,	10	13	23
Apparently arrested,	8	16	24
Quiescent,	93	57	150
Improved,	88	58	146
Unimproved,	34	38	72
Died,	18	6	24
Non-tuberculous,	1	-	1
Not considered,	26	33	59
Totals,	278	221	499

TABLE 9. — *Deaths.*

Males, 18; females, 6; total, 24. Details on file at office of the Department.

TABLE 10. — *Cause of Death.*

Details on file at office of the Department.

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